

A REVIEW OF THE
NORTH ASIAN GROUND SPIDERS
OF THE GENUS *GNAPHOSA*
(ARANEAE, GNAPHOSIDAE)

VLADIMIR I. OVTSHARENKO, NORMAN I. PLATNICK,
AND D. X. SONG

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ABSTRACT

The 65 species of the Holarctic ground spider genus *Gnaphosa* known or expected to occur in the USSR, Mongolia, China, Afghanistan, Nepal, Korea, Japan, and Vietnam are reviewed. *Pterotricha jucunda* (Thorell) is transferred to *Gnaphosa*; *G. rufa* Denis is transferred to *Sosticus* and placed as a junior synonym of *S. loricatus* (L. Koch); *G. lindbergi* Roewer is transferred to *Fedotovia* and placed as a junior synonym of *F. uzbekistanica* Charitonov. Thirty-seven specific names are newly synonymized within *Gnaphosa*: *barroisi* Simon, *adriatica* Kulczyński, and *spadicea* Simon, all with *dolosa* Herman; *rudolfi* Schenkel with *stoliczkai* O. P.-Cambridge; *ajdahania* Roewer with *haarlovi* Denis; *soror* Herman with *lugubris* (C. L. Koch); *suspecta* Herman with *moesta* Thorell; *silvicola* Kamura with *potanini* Simon; *alberti* Schenkel, *falculata* Schenkel, and *roeweri* Schenkel, all with *kansuensis* Schenkel; *adpersa* Grube, *annamita* Simon, *suchuana* Chamberlin, and *davidi* Schenkel, all with *kompirensis* Bösenberg and Strand; *similis* Kulczyński and *lesserti* Schenkel with *muscorum* (L. Koch); *glandifera* Schenkel, *holmi* Schenkel, *charitonowi* Schenkel, *braendegaardi* Schenkel, and *berlandi* Schenkel, all with *mandschurica* Schenkel; *spinosa* Kulczyński, *auriceps* Schenkel, *chaffanjonii* Schenkel, and *corifera*

Schenkel, all with *mongolica* Simon; *proxima* Kulczyński, *pseudomongolica* Schenkel, and *tari-muensis* Hu, all with *gracilior* Kulczyński; *denisi* Schenkel and *taegensis* Paik, both with *licenti* Schenkel; *laeta* Kulczyński with *alpica* Simon; *ko-reae* Strand, *bonneti* Schenkel, *martae* Schenkel, and *schensiensis* Schenkel, all with *sinensis* Simon; and *nigra* Kulczyński with *nigerrima* L. Koch. Twenty-two new species are described: *betpaki*, *saurica*, *zyuzini* and *eskovi* (Kazakhstan); *kuldzha* (Kirghizia, Turkmenia); *ukrainica* (Ukraine); *turkmenica* (Turkmenia); *pseashcho*, *caucasica*, *pseudoleporina*, and *primorica* (Russia); *kamurai* (Japan); *steppica* (Azerbaijan, Kazakhstan, Russia, Turkey); *belyaevi* (Mongolia); *kurchak*, *zonsteini*, and *ovchinnikovi* (Kirghizia); *zhaoi* (China); *tarabaei*, *ilika*, and *reikhardi* (Kazakhstan, Kirghizia); and *dege* (Kirghizia, China). Males are newly described for *cumensis* Ponomarev, *fagei* Schenkel, *pilosa* Saveljeva, *gracilior*, *modestior* Kulczyński (males previously identified as this species are assigned to *alpica*), and *aborigena* Tyschchenko (males previously identified as this species are assigned to *dolosa*); females are newly described for *rufula* (L. Koch; females previously identified as this species are assigned to *steppica*) and *wiehlei* Schenkel.

INTRODUCTION

The spider genus *Gnaphosa* constitutes one of the most abundant and speciose components of the Holarctic hunting spider fauna. Although modern revisionary studies of the genus exist for North America (Platnick and Shadab, 1975) and central Europe (Grimm, 1985), the Asian fauna of the genus has been the subject only of fragmentary and regional studies. Notable among the latter are the splendidly illustrated reviews by Kamura (1988) and Paik (1989) of the Japanese and Korean faunas, respectively.

We present here the results of a comparative survey of some 4650 adult specimens of *Gnaphosa* from the USSR, Mongolia, China, Afghanistan, Nepal, Korea, Japan, and Vietnam. Although numerous specific synonyms were discovered, particularly among the many Chinese species described (usually from only one or two specimens) by Schenkel (1963), study of the extensive collections now available from the Soviet Union also revealed numerous undescribed taxa. As a re-

sult, the fauna covered here (65 species) dwarfs those of both North America (26 species reported by Platnick and Shadab, 1975) and central Europe (17 species reported by Grimm, 1985).

To assist with identifications, the species treated here are assigned to 10 informal species groups. These assignments are not presented as corroborated monophyletic groupings; indeed, few (if any) of them will prove monophyletic when a worldwide phylogenetic analysis of *Gnaphosa* can be accomplished. The faunas of three major geographic areas require revision before such an analysis can usefully be undertaken. The southern European and Middle Eastern *Gnaphosa* faunas are included within current studies by Drs. Ute Grimm and Gershon Levy, respectively. The Indian fauna requires revision by workers with access to the type material of the species described by Tikader and co-workers, at least some of which appear to be misplaced in the genus.

The format of the descriptions and standard abbreviations of morphological terms follow those of Platnick and Shadab (1975). All measurements are in millimeters. Where sufficient material has been available, we present scanning electron micrographs, as well as drawings, of the male palpal bulb and female epigynum.

We are deeply indebted to the Weatherhead Fund of the American Museum of Natural History for the financial assistance that has enabled our collaborative efforts in Beijing, St. Petersburg, and New York. Helpful comments on a draft of the manuscript were provided by Charles Dondale (Biosystematics Research Centre, Ottawa) and John Murphy (Hampton, England). We thank also Mohammad U. Shadab and Louis Sorkin of the American Museum of Natural History for assistance with illustrations and maps, and the many collectors and curators, listed below, who provided relevant specimens.

COLLECTIONS EXAMINED

AMNH	American Museum of Natural History
BMNH	Natural History Museum, London, P. Hillyard
CJW	Jörg Wunderlich, Straubenhardt, Germany
CKYP	Kap Yong Paik, Taegu, Korea

CNC	Canadian National Collection, C. Dondale
CTB	Tsai Beji, Xinxiang Normal College, Henan, China
CTK	Takahide Kamura, Otomon Gakuin Univ., Osaka, Japan
CYM	Yuri M. Marusik, Magadan, USSR
HDO	Hope Entomological Collections, Oxford University, I. Lansbury
HMNH	Hungarian Museum of Natural History, S. Mahunka
IZB	Institute of Zoology, Academia Sinica, Beijing
MNHN	Muséum National d'Histoire Naturelle, Paris, J. Heurtault and C. Rollard
MZEL	Museum of Zoology and Entomology, Lund University, L. Cederholm
MZH	Museum of Zoology, Helsinki, J. Terhivuo
NHMB	Naturhistorisches Museum Basel, A. Hänggi
NMS	Natur-Museum Senckenberg, M. Grashoff, J. Martens
NRS	Naturhistoriska Riksmuseum, Stockholm, T. Kronstedt
PAN	Polska Akademia Nauk, A. Słojewska
USNM	National Museum of Natural History, Smithsonian Institution, J. Coddington
ZIP	Zoological Institute, Academy of Sciences, St. Petersburg
ZMC	Zoologisk Museum, Copenhagen, N. Scharff
ZMH	Zoological Museum, Hamburg, G. Rack

GNAPHOSA LATREILLE

Gnaphosa Latreille, 1804: 134 (type species, designated by Thorell, 1871: 149, *Aranea lucifuga* Walckenaer).

NOTE: See Bonnet (1957) and Platnick and Shadab (1975) for generic synonyms.

DIAGNOSIS: See Platnick and Shadab (1975) and Grimm (1985).

DESCRIPTION: See Platnick and Shadab (1975) and Grimm (1985).

MISPLACED SPECIES: Examination of the female holotype (in ZMC) of *Gnaphosa rufa* Denis (1958) from Afghanistan indicates that the name is a junior synonym of *Sosticus loricatus* (L. Koch, 1866) (NEW SYNONYMY); see Platnick and Shadab (1976) for illustrations of the species. Examination of the female holotype (in MZEL) of *Gnaphosa lindbergi* Roewer (1961) from Afghanistan indicates that the name is a junior synonym

of *Fedotovia uzbekistanica* Charitonov (1946) (NEW SYNONYMY); see Ovtsharenko and Platnick (1991) for illustrations of the species.

UNCERTAIN NAMES: Two names established by Schenkel (1936: 261, 262), *G. multispinosa* and *G. crassipes*, were each based on unidentifiable single juvenile females, and are therefore here considered nomina dubia.

Several older names will remain unidentifiable unless or until their type material is discovered. We have not been able to locate any type material of *Gnaphosa nigella* L. Koch (1878) or *G. subrufula* Strand (1907b) and consider both to be nomina dubia.

Thorell (1875) described five species of *Gnaphosa*. Three (*G. taurica*, *G. moesta*, and *G. jucunda*) are treated as valid below; the two others (*G. nomas* and *G. trebax*) were

listed (as was *G. jucunda*) as species of *Pterotricha* Kulczyński, rather than *Gnaphosa*, in the catalogs of Reimoser (1919), Charitonov (1932), and Roewer (1955), but not in Bonnet (1957). The type of *G. nomas* (a male from "Sarepta" collected by Becker) is not in the Thorell collection (NRS, Dr. T. Kronstedt, in litt.) or the Becker collection in Brussels (Dr. L. Baert, in litt.). The type of *G. trebax* (a female from Simferopol, Crimea, Ukraine, USSR, collected by A. von Nordmann) is also absent from both NRS and the von Nordmann collection in MZH (Dr. J. Terhivuo, in litt.).

THE *LUCIFUGA* GROUP

Males of this group generally have an embolus occupying the prolateral side of the palpal bulb and bearing one or more small tubercles on its ventral surface; females generally have both inner and outer pairs of lateral epigynal margins. The species group is well represented in western (but not eastern) North America (Platnick and Shadab, 1975: 9).

Gnaphosa lucifuga (Walckenaer)

Figures 1-6; Map 1

Aranea lucifuga Walckenaer, 1802: 221 (male and female syntypes from France, may be in MNHN, not examined).

Gnaphosa lucifuga: Thorell, 1868: 379. – Tyschchenko, 1971: 92, fig. 181. – Grimm, 1985: 60, figs. 43, 60, 61. – Hu and Wu, 1989: 268, figs. 218.1-4. – Heimer and Nentwig, 1991: 422, figs. 1113.1-4.

DIAGNOSIS: Males can easily be recognized by the wide embolus with large tubercles on the retrolateral side (figs. 1, 2, 5), females by the anterolaterally deep epigynum, wide epigynal hood, and the wide, curved median epigynal ducts (figs. 3, 4, 6).

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: USSR: **Armeniya:** Gukasyan, May 29, 1983 (A. Kazyuchits, ZIP), 1♀. **Azerbaijan:** Lagich, Ismaily, July 1, 1986 (P. M. Dunin, ZIP), 4♀. **Kazakhstan:** *Kzyl-Orda:* Barsakelmes Island, Aral Sea, May 15-26, 1982 (T. V. Pavlenko, ZIP), 4♂. *Kokchetav:* Kokshetau Mt., June 11-22, 1957 (V. P. Tyschchenko, ZIP), 1♂, 1♀. *Uralsk:* Dzhaniybek, May 31-June 30, 1982 (K. G.

Mikhailov, ZIP), 13♂. **Russia:** *North Osetiya:* nr. Unal and Zintsar, Alagir Gorge, June 11-Sept. 7, 1985, elev. 1000-1200 m, pitfall traps (S. K. Alekseev, ZIP), 2♀. *Orenburg:* Belyaevka, 40 km S Orenburg, July 20, 1982 (V. R. Alifanov, ZIP), 1♀. *Rostov-na-Donu:* Bagaevskaya, May, 1973 (A. V. Ponomarev, ZIP), 1♂; Nedvigovka, June 19, 1975, pitfall traps (A. V. Ponomarev, ZIP), 2♂, 1♀; 8 km SE Remontnoe, July 4, 1973 (A. V. Ponomarev, ZIP), 1♂. *Volgograd:* Khora River, Elton Lake, June 28-29, 1982 (K. G. Mikhailov, ZIP), 1♀. *Voronezh:* Mitrofanovka, Kantemirovsk area, May 28-July 16, 1979 (A. A. Zyuzin, ZIP), 1♂. **Ukraine:** *Voroshilovgrad:* Starobelsk, 1896 (A. Splantchev, ZIP). 1♀. **Uzbekistan:** Katakol, Gisar Mt. range, Yakkabag area, Oct. 3, 1987 (S. L. Zonstein, ZIP), 1♀.

DISTRIBUTION: Extending from Europe through the southern European USSR, the Caucasus, and Kazakhstan (map 1).

Gnaphosa betpaki, new species

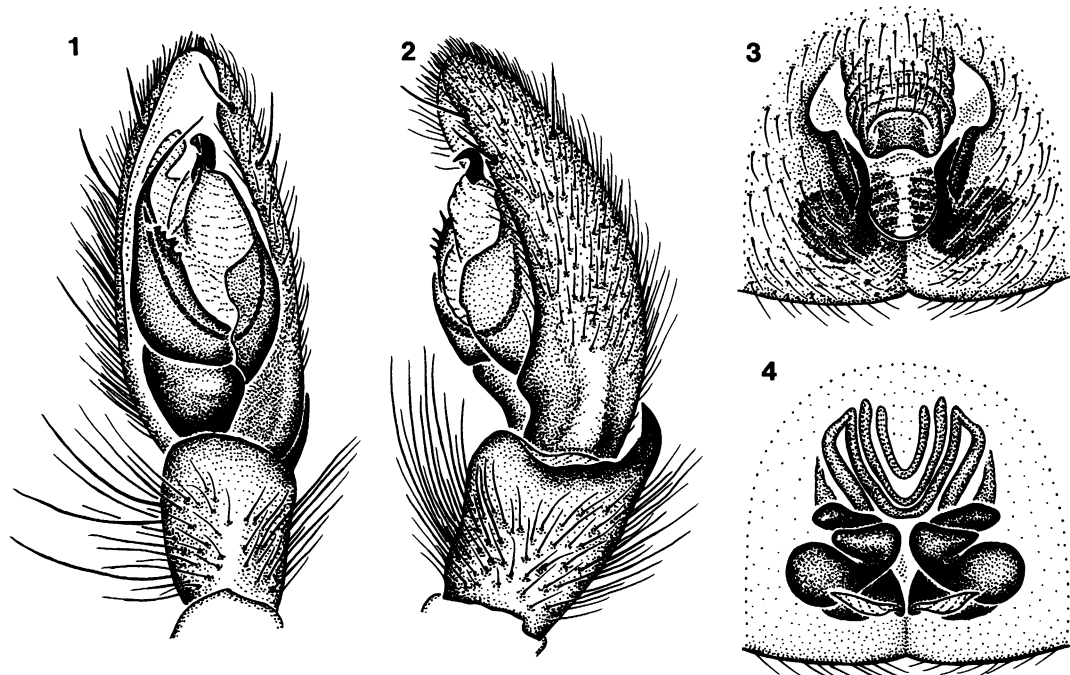
Figures 11-14; Map 2

TYPES: Male holotype and female allotype from 45 km SW Bairculi, Chimkent, Kazakhstan, USSR (Apr. 12, 1990; A. A. Zyuzin, A. A. Fedorov), deposited in ZIP.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: This species can be distinguished by the row of four or five equally sized tubercles on the medial portion of the embolus of males (fig. 11) and the wide epigynal hood and midpiece, sinuous inner lateral epigynal margins, and highly arched median epigynal ducts of females (figs. 13, 14).

MALE: Total length 10.40. Carapace 4.80 long, 3.60 wide. Femur II 3.20 long. Eye sizes and interdistances: AME 0.13, ALE 0.15, PME 0.18, PLE 0.10; AME-AME 0.16, AME-ALE 0.05, PME-PME 0.03, PME-PL 0.32, ALE-PL 0.40; MOQ length 0.52, front width 0.41, back width 0.41. Palp with long, wide embolus bearing row of four or five equally sized tubercles directed prolaterally on medial portion of embolus, median apophysis narrow (fig. 11); retrolateral tibial apophysis strongly curved, hooked (fig. 12). Leg spination: femora: II p0-2-2; IV r0-1-1; tibia II v0-0-2, r0-1-2; metatarsi: I v0-2-0; II v0-2-1; III v2-2-2; IV r0-1-2.



Figs. 1-4. *Gnaphosa lucifuga* (Walckenaer). 1. Left male palp, ventral view. 2. Same, retrolateral view. 3. Epigynum, ventral view. 4. Same, dorsal view.

FEMALE: Total length 11.20. Carapace 5.60 long, 4.80 wide. Femur II 2.90 long. Eye sizes and interdistances: AME 0.10, ALE 0.18, PME 0.20, PLE 0.18; AME-AME 0.21, AME-

ALE 0.06, PME-PME 0.04, PME-PLE 0.41, ALE-PLE 0.46; MOQ length 0.49, front width 0.45, back width 0.49. Epigynum with sinuous inner lateral margins, wide hood, and wide midpiece (fig. 13); spermathecae with long, highly arched, narrow median epigynal ducts (fig. 14). Leg spination: femora: II p0-1-1; IV r0-1-1; tibia II v0-0-1; metatarsi: I v0-1-0; II v0-2-0; III v2-2-2; IV p1-1-2, r0-1-2.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Dzhambul:* 76 km NE Ulanbel, Betpak-Dala desert, June 5, 1990 (A. A. Zyzin, A. A. Fedorov, ZIP), 1♀. *Kzyl-Orda:* Barsakelmes Island, Aral Sea, May 22, 1982 (T. V. Pavlenko, ZIP), 1♀.

DISTRIBUTION: Southern Kazakhstan, USSR (map 2).

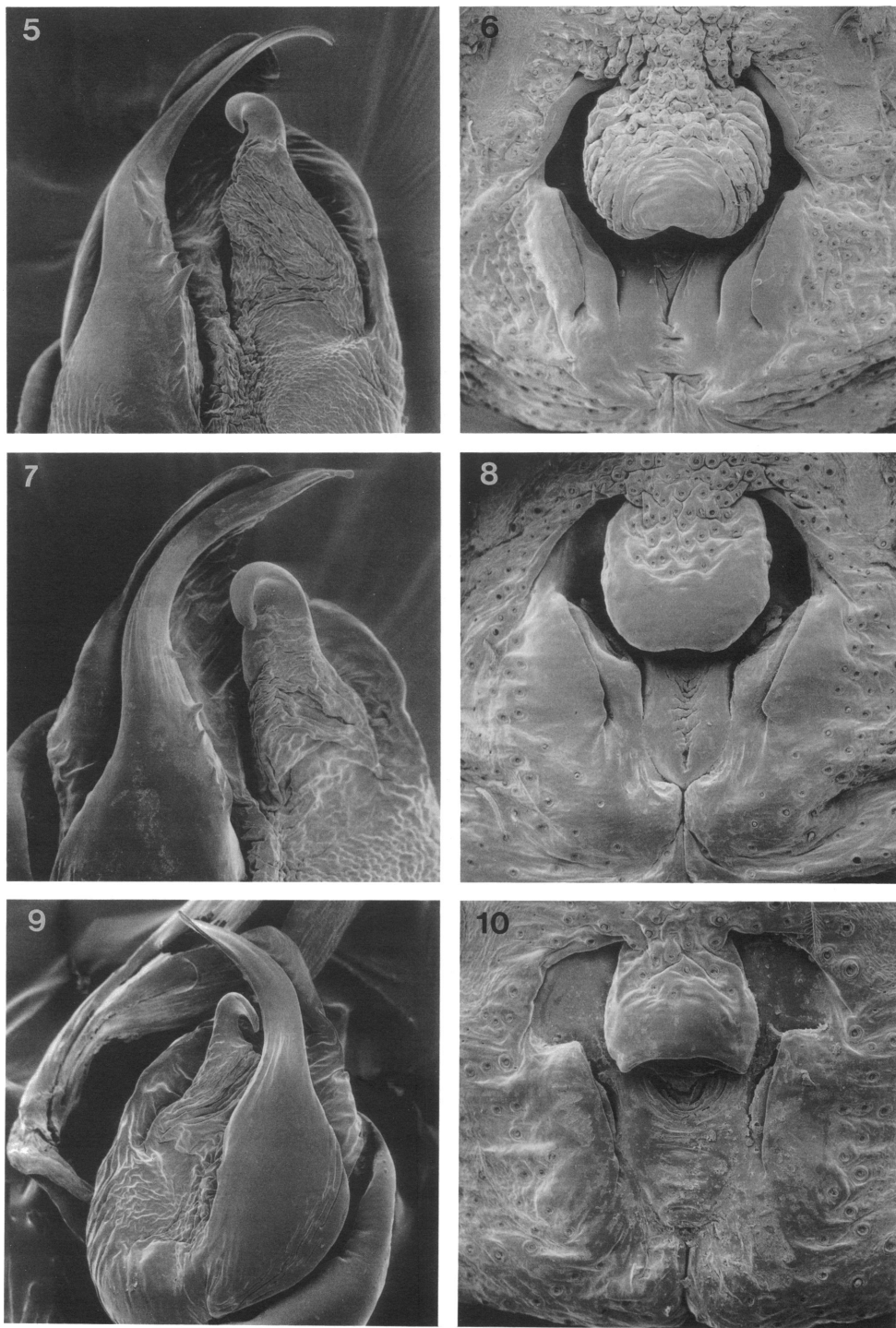
***Gnaphosa saurica*, new species**

Figures 15-18; Map 2

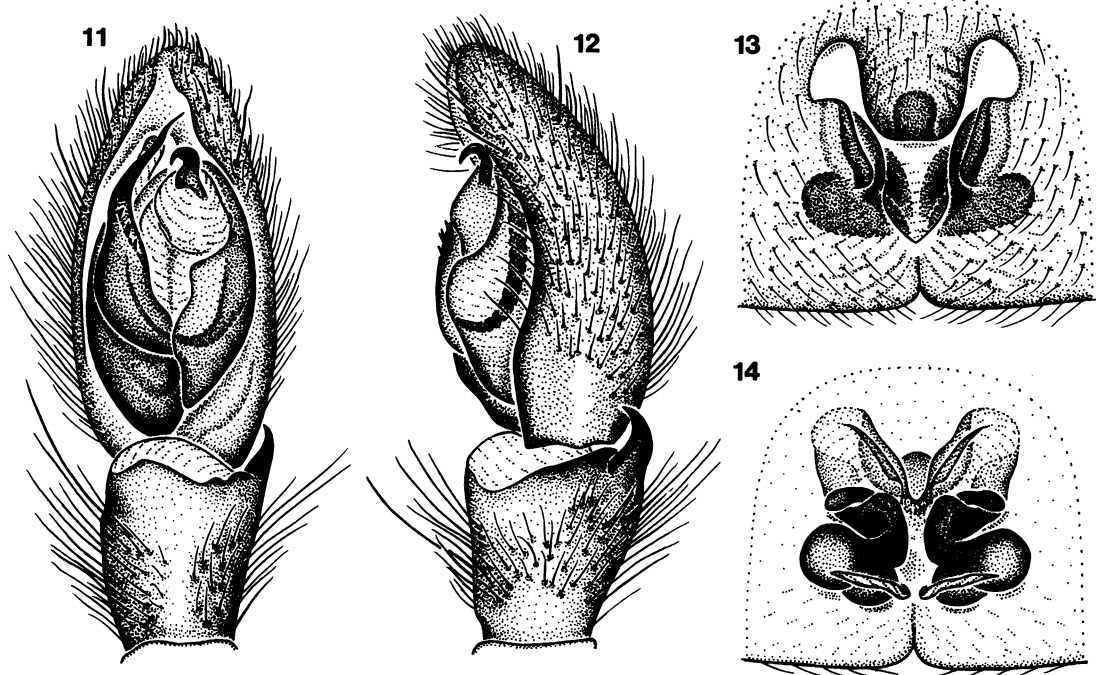
TYPE: Male holotype from Akkolka River, nr. Kenderlyk River, Saur Mt. range, Zaisan area, Vostochno-Kazakhstanskaya, Kazakhstan, USSR (June 5-9, 1990; K. Y. Eskov), deposited in ZIP.



Map 1. Distribution of *Gnaphosa lucifuga* (●) and *G. tuvinica* (■).



Figs. 5–10. 5, 6, *Gnaphosa lucifuga* (Walckenaer). 7, 8. *G. dolosa* Herman. 9, 10. *G. cumensis* Ponomarev. 5, 7, 9. Male palp, ventral view. 6, 8, 10. Epigynum, ventral view.



Figs. 11-14. *Gnaphosa betpaki*, new species. 11. Left male palp, ventral view. 12. Same, retrolateral view. 13. Epigynum, ventral view. 14. Same, dorsal view.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: This species seems close to *G.*

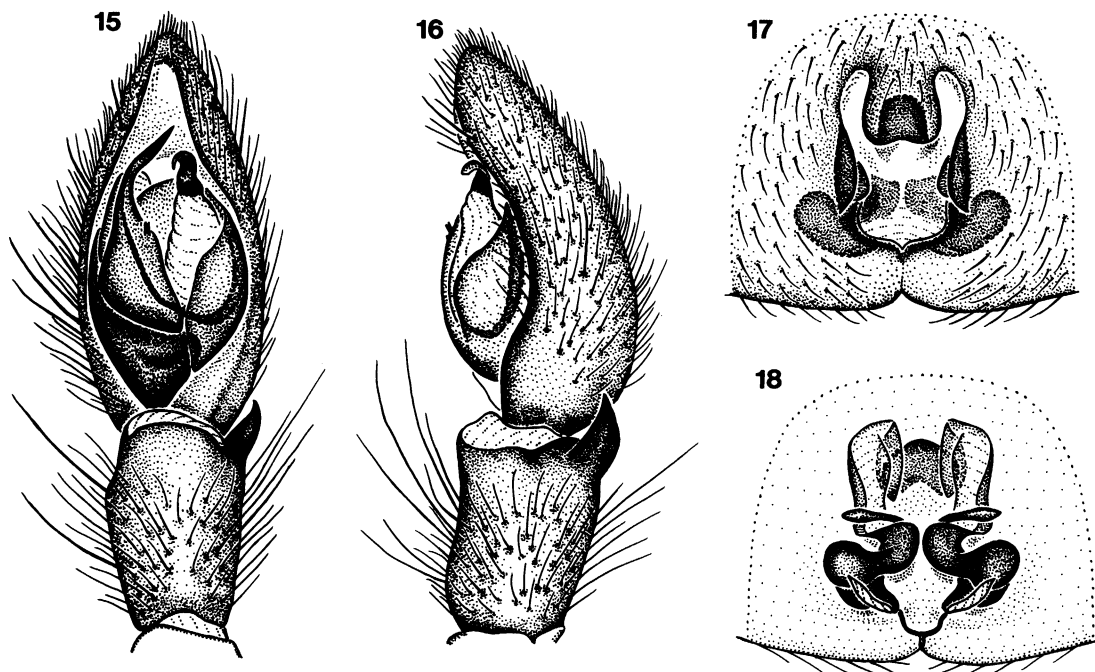
dolosa but can be distinguished by the narrow embolus bearing a double-headed tubercle and the narrow median apophysis of males (fig. 15) and the narrowed epigynal hood, wide epigynal midpiece, and long, approximate, laterally directed median epigynal ducts of females (figs. 17, 18).

MALE: Total length 6.60. Carapace 3.10 long, 2.50 wide. Femur II 2.40 long. Eye sizes and interdistances: AME 0.09, ALE 0.11, PME 0.10, PLE 0.10; AME-AME 0.12, AME-ALE 9.03, PME-PME 0.07, PME-PLE 0.20, ALE-PLE 0.26; MOQ length 0.35, front width 0.29, back width 0.31. Palp with narrow embolus bearing double-headed tubercle, median apophysis narrow (fig. 15); retrolateral tibial apophysis with parallel lateral margins (fig. 16). Leg spination: femora: II p0-2-2; IV r0-1-1; metatarsus III p1-0-1.

FEMALE: Total length 8.70. Carapace 3.70 long, 3.00 wide. Femur II 2.40 long. Eye sizes and interdistances: AME 0.11, ALE 0.13, PME 0.12, PLE 0.10; AME-AME 0.11, AME-ALE 0.06, PME-PME 0.10, PME-PLE 0.22, ALE-PLE 0.29; MOQ length 0.40, front width



Map 2. Distribution of *Gnaphosa betpaki* (●), *G. saurica* (■), and *G. jucunda* (▲).



Figs. 15–18. *Gnaphosa saurica*, new species. 15. Left male palp, ventral view. 16. Same, retrolateral view. 17. Epigynum, ventral view. 18. Same, dorsal view.

0.32, back width 0.38. Epigynum with narrow hood and wide midpiece (fig. 17); spermathecae with long, strongly curved, approximate, laterally directed median ducts (fig. 18). Leg spination: femora: II p0-1-1; IV r0-1-1.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan**: *Semipalatinsk*: 30 km S Sarzhai, Shagan River, Abai area, May 1990 (V. Tishchenko, ZIP), 2♀.

DISTRIBUTION: Eastern Kazakhstan, USSR (map 2).

Gnaphosa dolosa Herman

Figures 7, 8, 19–22; Map 3

Gnaphosa dolosa Herman, 1879: 191, 362, fig. 167 (male and female syntypes from Orsova, Mehedinți, Romania, probably in HMNH, not examined).

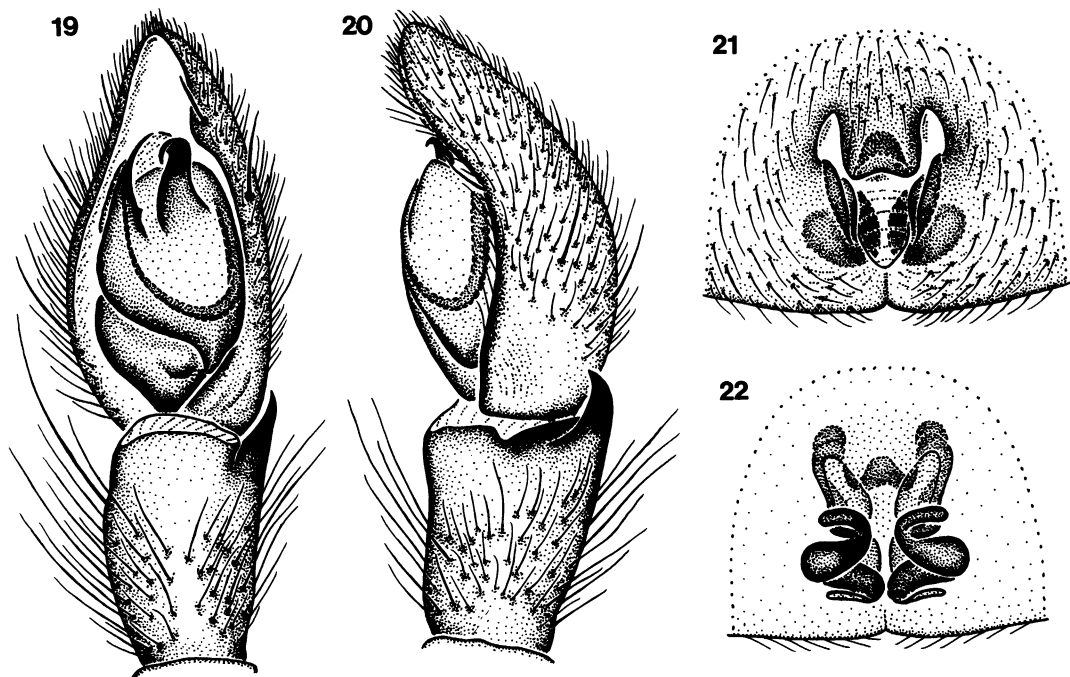
Gnaphosa barroisi Simon, 1892: 81 (female holotype from Birket-Abbâdi, Syria, may be in MNHN, not examined). NEW SYNONYMY.

Gnaphosa adriatica Kulczyński, in Chyzer and Kulczyński, 1897: 186, pl. 7, fig. 26 (female holotype from “Crkvenica” [Crkvice], Montenegro, Yugoslavia, in HMNH, examined). NEW SYNONYMY.

Gnaphosa spadicea Simon, 1914: 193, 223 (male holotype from Vallon, Ardèche, France, in MNHN, examined). – Soyer, 1964: 355, figs. 1a–b. NEW SYNONYMY.



Map 3. Distribution of *Gnaphosa dolosa* (●) and *G. kamurai* (■).



Figs. 19–22. *Gnaphosa dolosa* Herman. 19. Left male palp, ventral view. 20. Same, retrolateral view. 21. Epigynum, ventral view. 22. Same, dorsal view.

Gnaphosa aborigena: Ponomarev, 1981: 56, fig. 1 (misidentification).

DIAGNOSIS: This species resembles *G. saurica* but can be distinguished by the short, narrow embolus with a strongly curved apical portion and prolaterally directed tubercle near its base in males (figs. 7, 19, 20) and the narrow epigynal midpiece, squared epigynal hood and wide, well separated median epigynal ducts of females (figs. 8, 21, 22).

MALE: Described by Herman (1879).

FEMALE: Described by Herman (1879).

MATERIAL EXAMINED: USSR: **Azerbaijan:** Dzhapharkhan, Saatly, June 16–Aug. 31, 1982 (P. M. Dunin, ZIP), 10♂, 4♀. **Georgia:** Abkhas: Gentsvishi, Aug. 17, 1974 (I. S. Egorova, ZIP), 2♂, 18♀; Lagodeshi Reservation, Shromiecheva River, June 26–July 28, 1982, under stones (Y. M. Marusik, ZIP), 4♂, 16♀. **Kazakhstan:** Alma-Ata: Kaskelen, June 7–22, 1979, pitfall traps (A. Slivkin, ZIP), 5♂, 1♀. **Russia:** Kalmykiya: Gograi Reservoir, May–July 1980 (N. O. Basangova, ZIP, AMNH), 7♂, 6♀. **Krasnodar:** Novorossiisk, Aug. 5, 1974 (V. I. Ovtsharenko, ZIP), 1♀; Sochi, Adler, July 28, 1976 (V. I. Ovtsharenko, ZIP), 1♂,

5♀. **Ukraine:** Dnepropetrovsk: Andreevka, Samara River, Novomoskovsk area, 1972–1973 (A. A. Zyuzin, ZIP), 2♀; Bulakhovka, June 14–Aug. 7, 1974 (A. A. Zyuzin, ZIP), 4♂, 2♀. **Zaporozhe:** Primorskii, Priazovsk area, July, 25, 1981 (Mukhin, ZIP), 1♂. **TURKEY:** ancient Gordion, June 2, 1979 (B., H. Malkin, AMNH), 1♀. **SYRIA:** Lac de Homs (H. G. de Kerville, MNHN), 1♂; Lac Yamouné, 1911 (H. G. de Kerville, MNHN), 1♀.

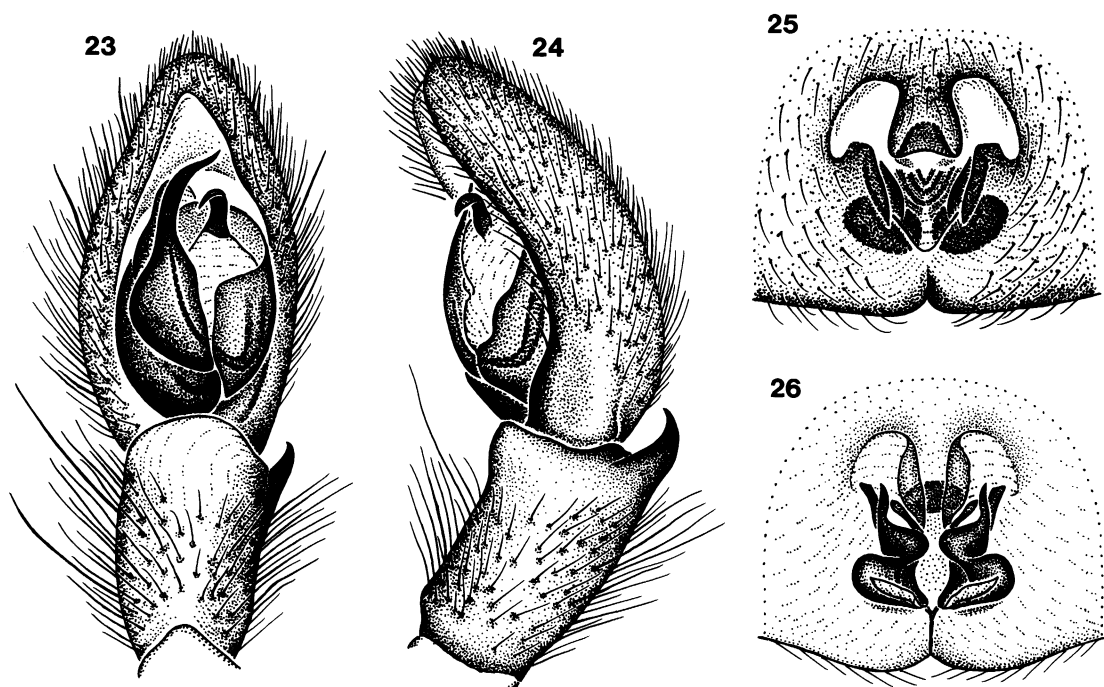
DISTRIBUTION: From France, the Balkans, Turkey, and Syria through the European part of the USSR to near Alma-Ata in Kazakhstan (map 3).

SYNONYMY: No information was supplied by the authors of *G. adriatica* or *G. spadicea* to separate those taxa from *G. dolosa*, and there appears to be none. The placement of *G. barroisi* is based on nontypical material (MNHN) but those specimens are from Syria and may have been identified by Simon.

Gnaphosa cumensis Ponomarev

Figures 9, 10, 23–26; Map 4

Gnaphosa cumensis Ponomarev, 1981: 57, fig. 3 (female holotype from Rybachii, Chernozhe-



Figs. 23–26. *Gnaphosa cumensis* Ponomarev. 23. Left male palp, ventral view. 24. Same, retrolateral view. 25. Epigynum, ventral view. 26. Same, dorsal view.

melsk area, Kalmykiya, Russia, USSR, in ZIP, examined).

DIAGNOSIS: This species can be distinguished by the curved, wide embolus without tubercles of males (figs. 9, 23) and the long, narrow epigynal hood with wide lateral pockets, and the long, narrow, anteriorly directed median epigynal ducts of females (figs. 10, 25, 26).

MALE: Total length 8.90. Carapace 3.40 long, 2.70 wide. Femur II 2.40 long. Eye sizes and interdistances: AME 0.19, ALE 0.12, PME 0.24, PLE 0.19; AME-AME 0.12, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.15, ALE-PLE 0.17; MOQ length 0.42, front width 0.35, back width 0.41. Palp with smooth, curved, wide embolus (figs. 9, 23); retrolateral tibial apophysis triangular, sharply pointed (fig. 24). Leg spination: femora: I, II p0-1-1; IV r0-1-1; tibiae: III p1-1-1, r0-1-1; IV r2-1-1; metatarsi: III p1-2-2, r1-1-2; IV p1-2-2, r1-2-2.

FEMALE: Described by Ponomarev (1981).

MATERIAL EXAMINED: USSR: **Russia:** Kalmykiya: Rybachii, Chernozemelsk area, June

15–23, 1974, coast of salt lake (A. V. Ponomarev, ZIP), 3♀ (including holotype). *Volgograd:* Elton Lake, June 24, 1982 (Krit-



Map 4. Distribution of *Gnaphosa cumensis* (●) and *G. stoliczkai* (■).

skaya, ZIP), 1♀. MONGOLIA: **Bayan Khongor**: Orog Nuur Lake, Aug. 10, 1926 (Kirichenko, ZIP), 2♂, 1♀; Ulziit oasis, Shine-Dzhinst area, July 8, 1986 (V. I. Ovtsharenko, ZIP), 2♂, 10♀.

DISTRIBUTION: Kalmykiya and Volgograd in Russia and Bayan Khongor in Mongolia (map 4).

Gnaphosa stoliczkai O. P.-Cambridge
Figures 27–32; Map 4

Gnaphosa stoliczkae O. P.-Cambridge, 1885: 16, fig. 12 (male and female syntypes from four localities near Yarkand [= Soch'e], Xinjiang, China, in HDO, examined).

Gnaphosa stoliczkai: Bonnet, 1957: 2021.

Gnaphosa rudolfi Schenkel, 1963: 88, figs. 51a, b (male holotype from China, no specific locality, in MNHN, examined). – Hu and Wu, 1989: 272, figs. 220.1–4. NEW SYNONYMY.

DIAGNOSIS: Males can easily be recognized by the short, narrow embolus with a weakly curved distal portion (figs. 27, 28, 31), females by the long, anteriorly narrowed epigynal hood, anteriorly angular lateral epigynal margins, and the long, angular median epigynal ducts (figs. 29, 30, 32).

MALE: Described by O. P.-Cambridge (1885).

FEMALE: Described by O. P.-Cambridge (1885).

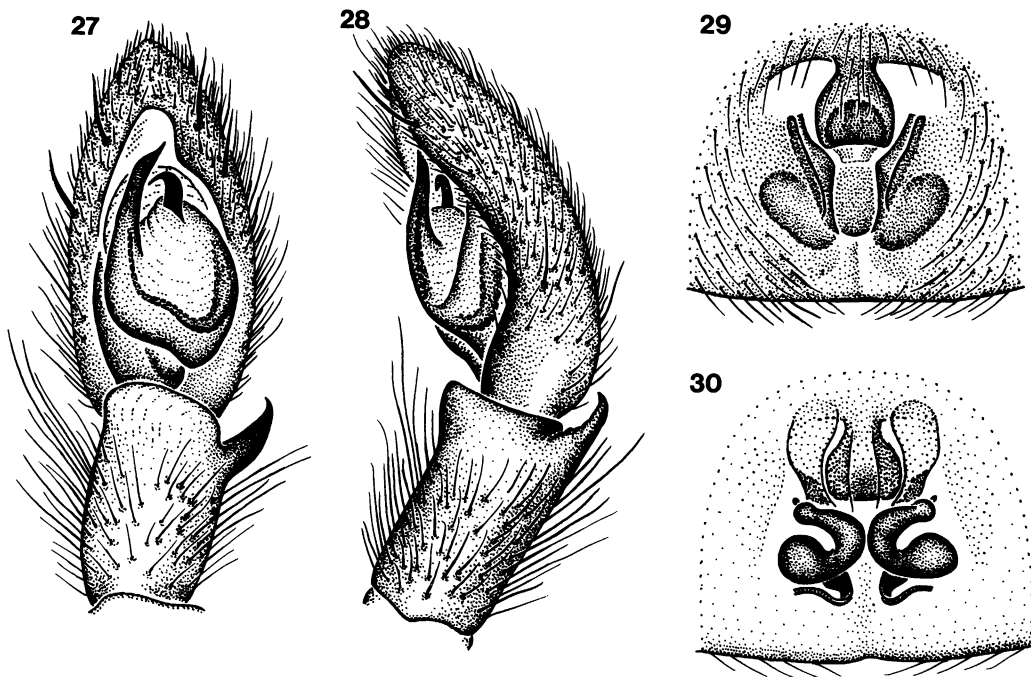
MATERIAL EXAMINED: CHINA: **Xinjiang**: “Between Yangihissár [Yingchisha] and Sirikol [Tash Kurghan], March 1874; from Yarkand to Bursi, May 28th to June 17th, 1874; also at Yangihissár [Yingchisha], April 1874; and Káshghar [Kashgar], Dec. 1973” (HDO), 4♂, 4♀ (syntypes); Turpan, Dec. 1, 1981 (J. L. Hu, IZB), 1♂, 2♀. Province unknown: collected by G. N. Potanin (MNHN), 1♂ (holotype).

DISTRIBUTION: Western Xinjiang, China (map 4).

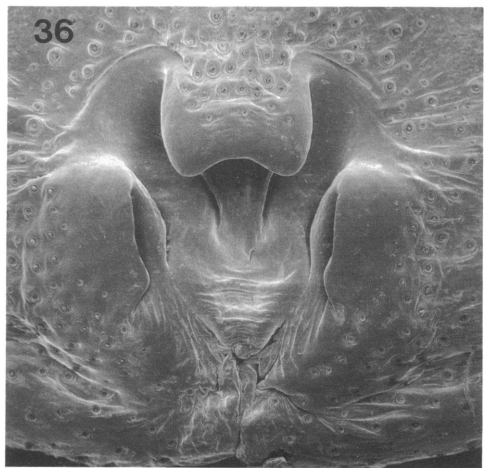
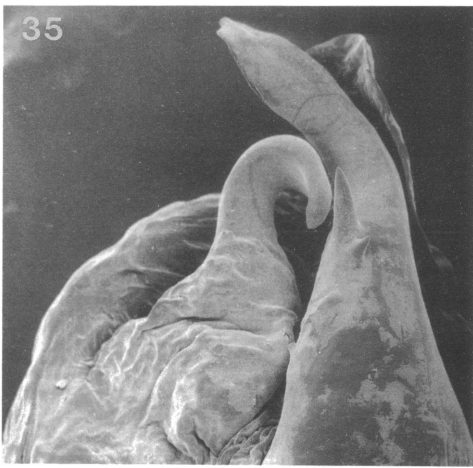
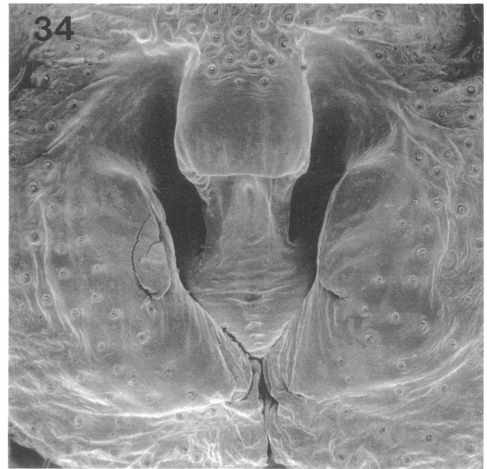
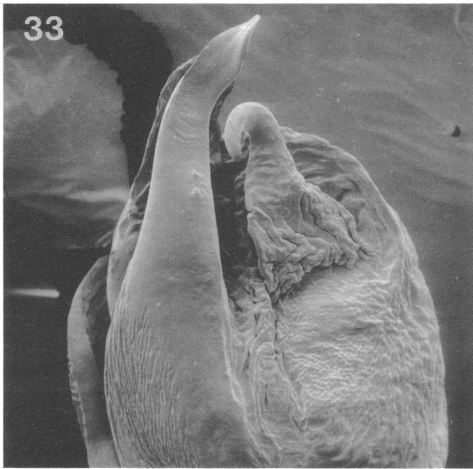
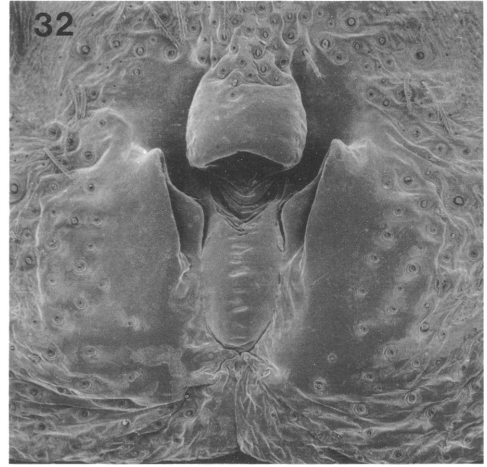
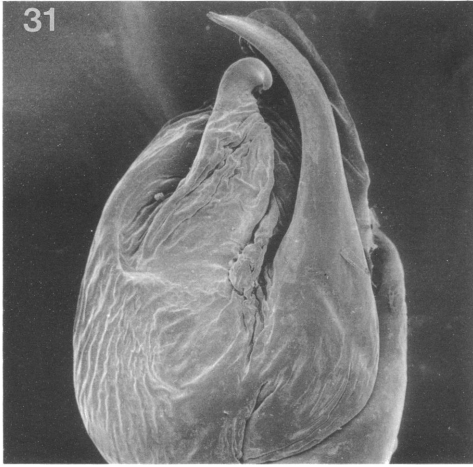
SYNONYMY: Schenkel (1963) provided no characters to distinguish *G. rudolfi* from *G. stoliczkai*, and there appear to be none.

Gnaphosa fagei Schenkel
Figures 33, 34, 37–40; Map 5

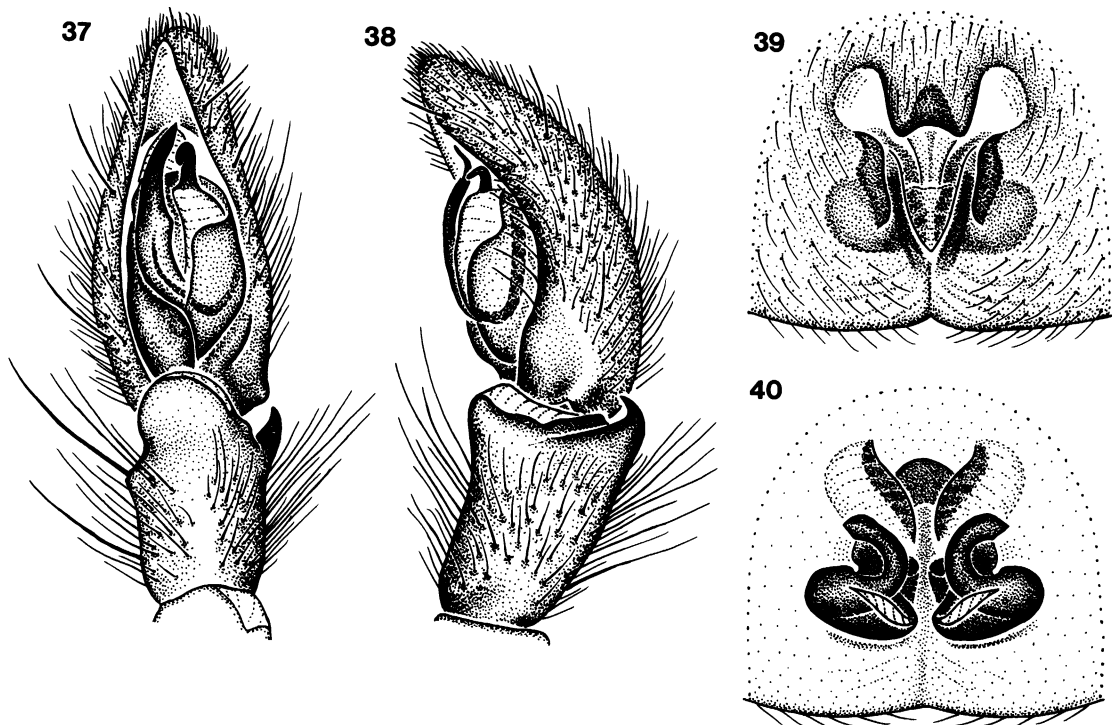
Gnaphosa fagei Schenkel, 1963: 82, fig. 46 (female holotype from “Hoang ho unterhalb Gui dui (Kuai tö),” Gansu, China, in MNHN, examined).



Figs. 27–30. *Gnaphosa stoliczkai* O. P.-Cambridge. 27. Left male palp, ventral view. 28. Same, retrolateral view. 29. Epigynum, ventral view. 30. Same, dorsal view.



Figs. 31–36. 31, 32. *Gnaphosa stoliczkai* O. P.-Cambridge. 33, 34. *G. fagei* Schenkel. 35, 36. *G. kuldzha*, new species. 31, 33, 35. Male palp, ventral view. 32, 34, 36. Epigynum, ventral view.



Figs. 37–40. *Gnaphosa fagei* Schenkel. 37. Left male palp, ventral view. 38. Same, retrolateral view. 39. Epigynum, ventral view. 40. Same, dorsal view.

DIAGNOSIS: This species resembles *G. kuldzha* but can be distinguished by the short, wide embolus with two tiny, prolaterally di-

rected tubercles on its medial portion in males (fig. 33) and the wide epigynal midpiece, the short, wide epigynal hood with deep lateral pockets, and the widely separated median epigynal ducts of females (figs. 34, 39, 40).

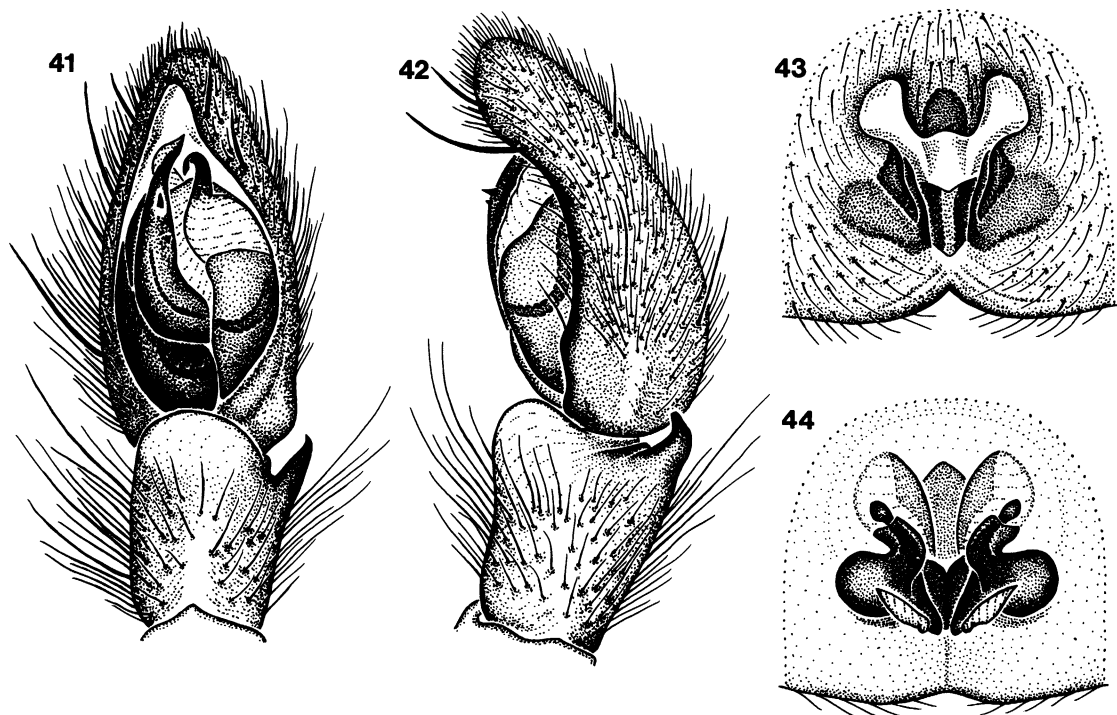
MALE: Total length 12.40. Carapace 6.40 long, 4.80 wide. Femur II 4.80 long. Eye sizes and interdistances: AME 0.18, ALE 0.23, PME 0.24, PLE 0.19; AME-AME 0.18, AME-ALE 0.12, PME-PME 0.04, PME-PLE 0.49, ALE-PLE 0.25; MOQ length 0.69, front width 0.52, back width 0.55. Palp with short, wide embolus, medial portion with two tiny tubercles directed prolaterally (figs. 33, 37); retrolateral tibial apophysis long, strongly curved (fig. 38). Leg spination: femora: I, II p0-2-2; IV r0-1-1; tibia II v0-1-1; metatarsi: III p1-1-2, v2-2-2, r1-1-2; IV p1-2-2, r1-2-2.

FEMALE: Described by Schenkel (1963).

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Dzhambul:* Kyzyltuz, 13 km NE Ulanbel, Betpak-Dala desert, June 2–3, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 1♂, 2♀; Ogiz-Olken Island, Balkhach Lake, Moinkum area,



Map 5. Distribution of *Gnaphosa fagei* (●) and *G. lugubris* (■).



Figs. 41–44. *Gnaphosa kuldzha*, new species. 41. Left male palp, ventral view. 42. Same, retrolateral view. 43. Epigynum, ventral view. 44. Same, dorsal view.

Apr. 24, 1987 (C. K. Tarabaev, A. M. Litovchenko, ZIP), 1♀. *Kzyl-Orda*: Barsakelmes Island, Aral Sea, May 16–22, 1982–1983 (T. V. Pavlenko, M. Baranova, ZIP), 3♂, 1♀; May 7–June 19, 1983–1984 (D. Piryulin, ZIP), 2♀. CHINA: Gansu: “Hoang ho unterhalb Gui dui (Kuai tö),” May 6, 1885 (G. N. Potanin, MNHN), 1♀ (holotype).

DISTRIBUTION: Dzhabul and Kzyl-Orda in Kazakhstan, USSR and Gansu in China (map 5).

***Gnaphosa kuldzha*, new species**

Figures 35, 36, 41–44; Map 6

TYPES: Male holotype and female allotype from Karakuldzha gorge, Ferganskii Mt. range, Kirghizia, USSR (Aug. 20, 1985; S. L. Zonstein), deposited in ZIP.

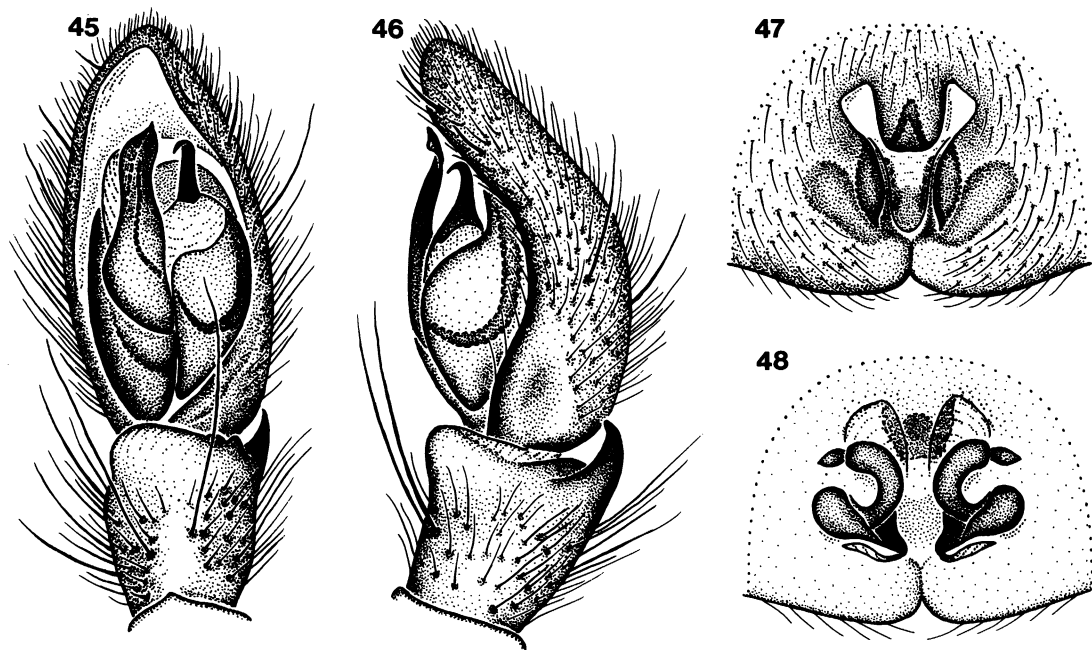
ETYMOLOGY: The specific name is taken from the type locality.

DIAGNOSIS: This species resembles *G. fagei* but can be distinguished by the short embolus bearing a large tubercle on its prolateral side of males (figs. 35, 41) and the narrowed epigynal hood with deep lateral pockets, wide

epigynal midpiece, and short, widely separated, anteriorly directed median epigynal ducts of females (figs. 36, 43, 44).



Map 6. Distribution of *Gnaphosa kuldzha* (●) and *G. caucasica* (■).



Figs. 45–48. *Gnaphosa haarlovi* Denis. 45. Left male palp, ventral view. 46. Same, retrolateral view. 47. Epigynum, ventral view. 48. Same, dorsal view.

MALE: Total length 12.80. Carapace 6.40 long, 5.00 wide. Femur II 4.20 long. Eye sizes and interdistances: AME 0.11, ALE 0.19, PME 0.20, PLE 0.15; AME-AME 0.26, AME-ALE 0.10, PME-PME 0.10, PME-PLE 0.42, ALE-PLE 0.49; MOQ length 0.67, front width 0.50, back width 0.49. Palp with short, straight embolus bearing large tubercle on prolateral side (figs. 35, 41); retrolateral tibial apophysis thin, curved (fig. 42). Leg spination: femora: I, II p0-2-2; IV r0-1-1; tibia II v0-1-2; metatarsi: I v1-0-0; II v2-0-0; III p1-2-2, v2-2-2, r1-1-2; IV p1-2-2, r1-2-2.

FEMALE: Total length 14.80. Carapace 5.70 long, 5.50 wide. Femur II 4.20 long. Eye sizes and interdistances: AME 0.20, ALE 0.23, PME 0.20, PLE 0.18; AME-AME 0.19, AME-ALE 0.10, PME-PME 0.10, PME-PLE 0.49, ALE-PLE 0.42; MOQ length 0.73, front width 0.57, back width 0.60. Epigynum with narrowed hood with deep pockets and wide mid-piece (figs. 36, 43); spermathecae with short median ducts anteriorly directed, widely separated (fig. 44). Leg spination: femora I, II p0-1-1; tibia II v0-1-1; metatarsi: I v0-0-1; II v2-0-0; III p1-2-2, v2-2-2, r1-1-1; IV p1-2-2, v2-2-2, r1-2-2.

OTHER MATERIAL EXAMINED: USSR: **Kirghizia:** Karakuldzha gorge, Ferganskii Mt. range, Aug. 20, 1985, elev. 1400–1700 m, maple forest (S. L. Zonstein, ZIP), 2♀. **Turkmenia:** State Farm “50 let TCCR,” Murgab area, spring 1975 (ZIP), 1♂.

DISTRIBUTION: Kirghizia and southern Turkmenia, USSR (map 6).

Gnaphosa haarlovi Denis

Figures 45–48; Map 7

Gnaphosa haarlovi Denis, 1958: 94, figs. 17–20 (male and female syntypes from Shirparek, Koh-i-Baba range, Afghanistan, in ZMC, examined).

Gnaphosa ajdahania Roewer, 1961: 5, figs. 4, 5, 60 (female holotype from Ajdaha, Bamian, Afghanistan, in MZEL, examined). NEW SYNONYMY.

DIAGNOSIS: Males can easily be recognized by the distally widened embolus (figs. 45, 46), females by the long, narrow epigynal hood and narrow, widely separated median epigynal ducts (figs. 47, 48).

MALE: Described by Denis (1958).

FEMALE: Described by Denis (1958).

MATERIAL EXAMINED: USSR: **Turkmenia:**

Ashkhabad: Gyaaur, Apr. 11, 1982 (O. So-yunov, ZIP), 2♂. **Uzbekistan**: *Kara-Kalpak*: nr. Chimbai, May 16–25, 1985, cotton field (M. A. Zhiemuratov, ZIP), 1♂, 1♀. **AFGHANISTAN**: **Bamian**: Ajdaha, July 31, 1957 (MZEL), 1♀ (holotype). Province ? : Shirparek, Koh-i-Baba range, Aug. 7, 1948 (N. Haarlov, ZMC), 1♂, 1♀ (syntypes).

DISTRIBUTION: Turkmenia and Uzbekistan (USSR), and Afghanistan (map 7).

SYNONYMY: Roewer (1961) provided no diagnostic characters to distinguish *G. ajdahanica* from *G. haarlovi*, and there appear to be none.

***Gnaphosa ukrainica*, new species**

Figures 49, 50; Map 8

TYPE: Male holotype from Potievka Island, Chernomorskii Reservation, Kherson, Ukraine, USSR (July 9, 1987; N. Polchani-nova), deposited in ZIP.

ETYMOLOGY: The specific name refers to the type locality.

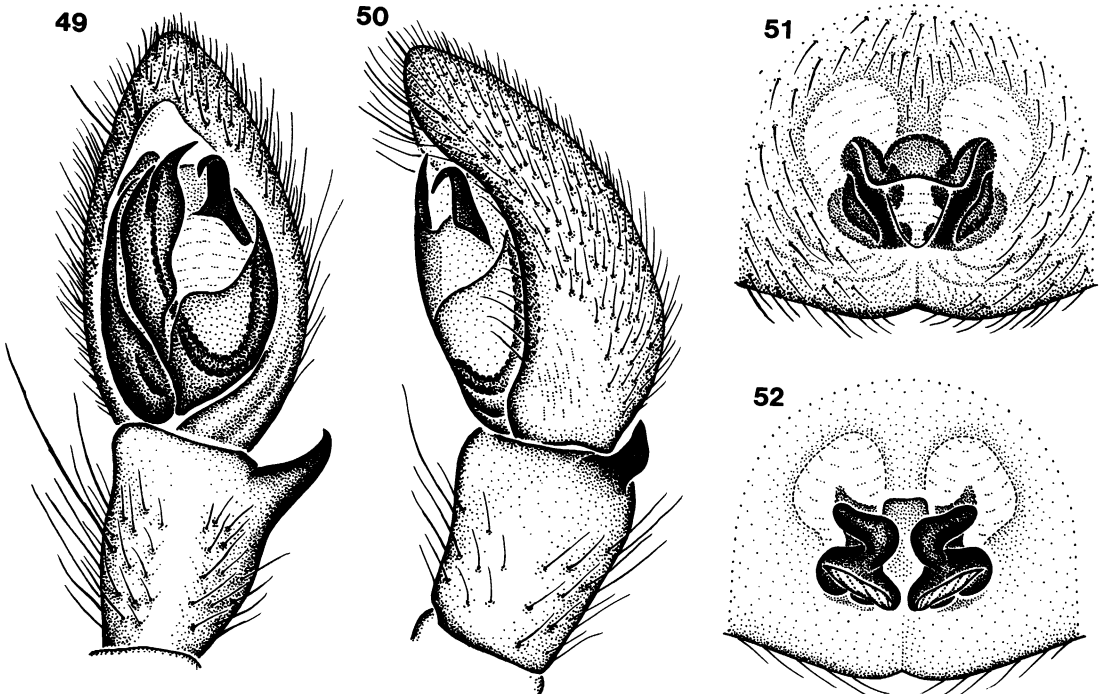
DIAGNOSIS: Males can easily be recognized



Map 7. Distribution of *Gnaphosa haarlovi* (●) and *G. kansuensis* (■).

by the short, extremely wide, sharply pointed embolus (fig. 49).

MALE: Total length 4.60. Carapace 2.40



Figs. 49–52. 49, 50. *Gnaphosa ukrainica*, new species. 51, 52. *G. perplexa* Denis. 49. Left male palp, ventral view. 50. Same, retrolateral view. 51. Epigynum, ventral view. 52. Same, dorsal view.



Map 8. Distribution of *Gnaphosa ukrainica* (●), *G. perplexa* (■), and *G. turkmenica* (▲).

long, 1.70 wide. Femur II 1.70 long. Eye sizes and interdistances: AME 0.08, ALE 0.11, PME 0.11, PLE 0.10; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.05, PME-PLE 0.08, ALE-PLE 0.10; MOQ length 0.30, front width 0.23, back width 0.27. Palp with short, wide embolus, apical portion sharply pointed (fig. 49); retrolateral tibial apophysis long, lightly curved (fig. 50). Leg spination: tibiae: II v0-0-1; III r0-1-1; metatarsi: II v0-0-1; III p1-1-2, r1-1-2; IV p1-1-2, r1-2-2.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: USSR: Ukraine: *Kherson*: Chernomorskii Reservation, May 1985 (N. Polchaninova, ZIP), 1♂.

DISTRIBUTION: Known only from the type locality in the Ukraine, USSR (map 8).

Gnaphosa perplexa Denis

Figures 51, 52; Map 8

Gnaphosa perplexa Denis, 1958: 95, fig. 22 (female holotype from Pirzada, Afghanistan, in ZMC, examined).

DIAGNOSIS: Females can be recognized by the short, wide epigynal hood and small epigynal midpiece (fig. 51) and the wide, approximate median epigynal ducts (fig. 52).

MALE: Unknown.

FEMALE: Described by Denis (1958).

MATERIAL EXAMINED: AFGHANISTAN: Pirzada, May 19, 1948 (N. Haarlov, ZMC), 1♀ (type).

DISTRIBUTION: Known only from the type locality in Afghanistan (map 8).

Gnaphosa danieli Miller and Buchar

Gnaphosa danieli Miller and Buchar, 1972: 383, figs. 1-7 (male holotype and female allotype from Shangri La, Ischmurch Tal, East Hindukusch, Afghanistan, deposited in Miller collection, Brno, lost).

NOTE: The type specimens have been lost (Dr. J. Buchar, in litt.), and we have not examined any other material attributable to this taxon.

DIAGNOSIS: Judging by the original illustrations, we believe the species clearly belongs to the *lucifuga* group, and is probably closest to *G. perplexa*, with which it shares a relatively wide, short epigynal hood. Males can apparently be distinguished by their relatively long, narrow embolus (possibly without tubercles, Miller and Buchar, 1972: figs. 1, 2), females by the shape of the epigynal hood and its wide separation from the lateral epigynal margins (Miller and Buchar, 1972: figs. 6, 7).

MALE: Described by Miller and Buchar (1972).

FEMALE: Described by Miller and Buchar (1972).

MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the types, now lost, taken at an elevation of 4450 m on Aug. 10, 1965, by Dr. M. Daniel.

Gnaphosa turkmenica, new species

Figures 53, 54; Map 8

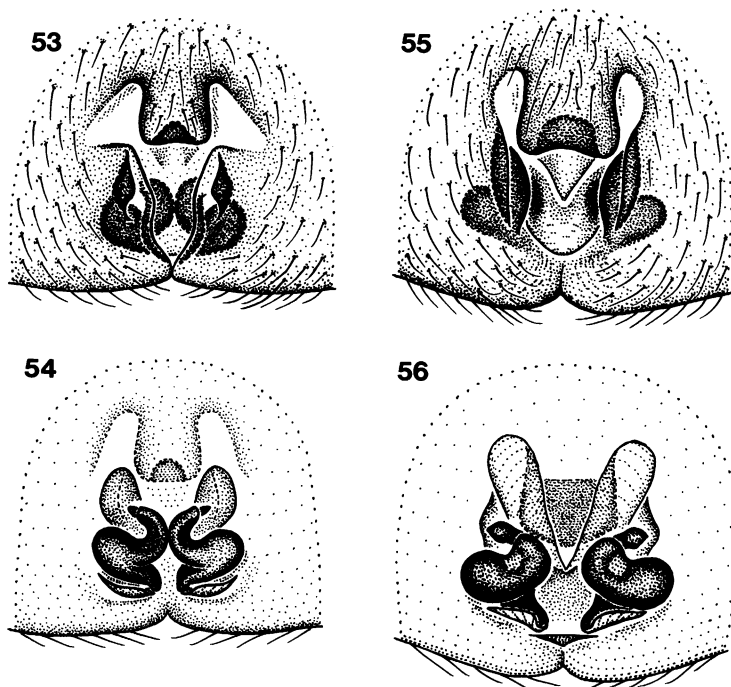
TYPE: Female holotype from Oilanduz Lake, Badkhyz Reservation, Mary, Turkmenia, USSR (May 30, 1977; V. Fet), deposited in ZIP.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Females can be distinguished by the short, squared epigynal hood with deep lateral pockets, the narrow epigynal midpiece, and the narrow, closely spaced median epigynal ducts (figs. 53, 54).

MALE: Unknown.

FEMALE: Total length 5.10. Carapace 2.30



Figs. 53–56. 53, 54. *Gnaphosa turkmenica*, new species. 55, 56. *G. jucunda* Thorell. 53, 55. Epigynum, ventral view. 54, 56. Same, dorsal view.

long, 1.70 wide. Femur II 1.40 long. Eye sizes and interdistances: AME 0.10, ALE 0.11, PME 0.10, PLE 0.09; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.06, PME-PLE 0.11, ALE-PLE 0.12; MOQ length 0.30, front width 0.25, back width 0.25. Epigynum with short, wide hood with deep pockets, midpiece narrow (fig. 53); spermathecae with narrow, closely spaced median ducts (fig. 54). Leg spination: femur IV r0-0-1; tibiae: II v0-1-1; III d1-0-0, p1-1-1, r0-1-1; IV r2-1-1; metatarsi: II v0-0-1; III p1-1-2, r1-1-1; IV p1-1-2, v1-1-1, r2-2-1.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in southern Turkmenia, USSR (map 8).

Gnaphosa jucunda Thorell

Figures 55, 56; Map 2

Gnaphosa jucunda Thorell, 1875: 85 (female holotype from "Orianda" [Crimea, Ukraine, USSR], in MZH, examined).

Pythonissa jucunda: Simon, 1878: 205.

Pterotricha jucunda: Reimoser, 1919: 173. – Roewer, 1955: 375.

DIAGNOSIS: Females can be recognized by the wide epigynal midpiece, squared epigynal hood, and narrow, well separated median epigynal ducts (figs. 55, 56).

MALE: Unknown.

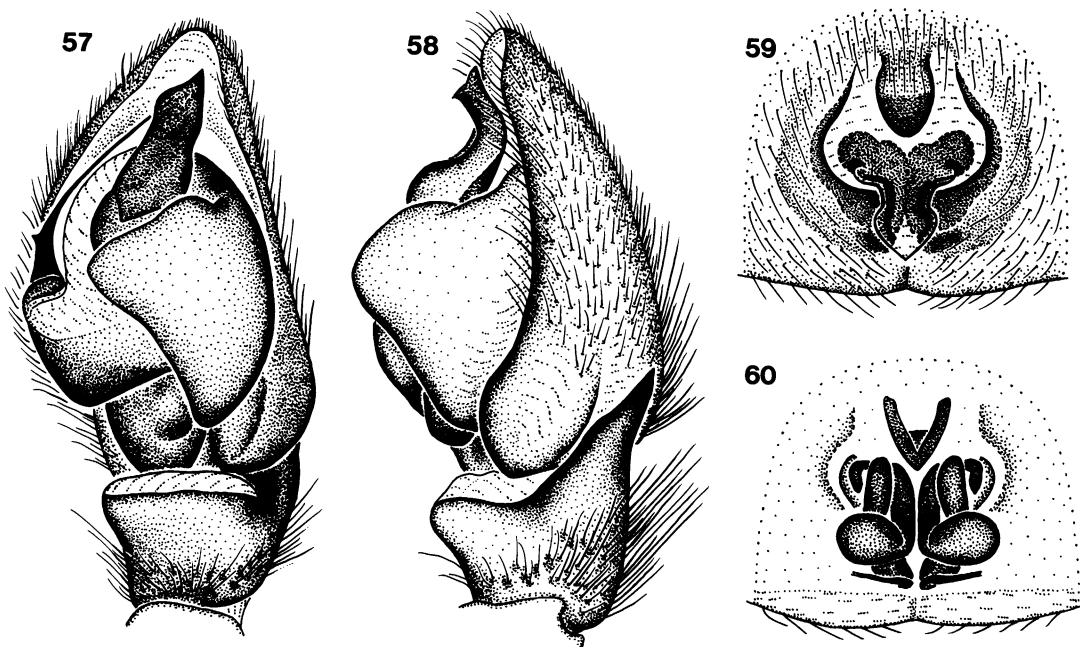
FEMALE: Described by Thorell (1875).

MATERIAL EXAMINED: USSR: **Russia**: *Krasnodar*: Sochi, Khosta, July 30–Aug. 13, 1928 (S. A. Spassky, ZIP), 1♀. **Ukraine**: *Crimea*: "Orianda," Oct. 22, 1861 (A. von Nordmann, MZH), 1♀ (holotype).

DISTRIBUTION: Northern shore of the Black Sea, USSR (map 2).

THE *LUGUBRIS* GROUP

This group contains species with a distinct prolateral protuberance on the embolus of males and long, usually coiled median epigynal ducts in females. As so defined, the group is much more narrowly restricted than in Platnick and Shadab (1975: 33), and no



Figs. 57–60. *Gnaphosa lugubris* (C. L. Koch). 57. Left male palp, ventral view. 58. Same, retrolateral view. 59. Epigynum, ventral view. 60. Same, dorsal view.

American species belong to the restricted grouping.

Gnaphosa lugubris (C. L. Koch)

Figures 57–62; Map 5

Pythonissa lugubris C. L. Koch, 1839: 60, fig. 473 (female holotype from Nauplia, Argolis, Greece, depository unknown).

Gnaphosa lugubris: Pavesi, 1873: 132. – Tyschchenko, 1971: 92, figs. 182, 191. – Platnick and Shadab, 1975: 33, figs. 8, 10. – Grimm, 1985: 64, figs. 49, 62, 63. – Roberts, 1985: 76, fig. 28a. – Heimer and Nentwig, 1991: 422, figs. 1119.1–4.

Gnaphosa soror Herman, 1879: 190, 362, fig. 169 (female holotype from Budapest, Hungary, may be in HMNH, not examined). NEW SYNONYMY.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: Males can be recognized by the short embolus bearing a basally situated embolar tubercle and the sharply pointed retrolateral tibial apophysis (figs. 57, 58, 61), females by the anteriorly narrowed epigynal atrium and widely spaced median epigynal ducts (figs. 59, 60, 62).

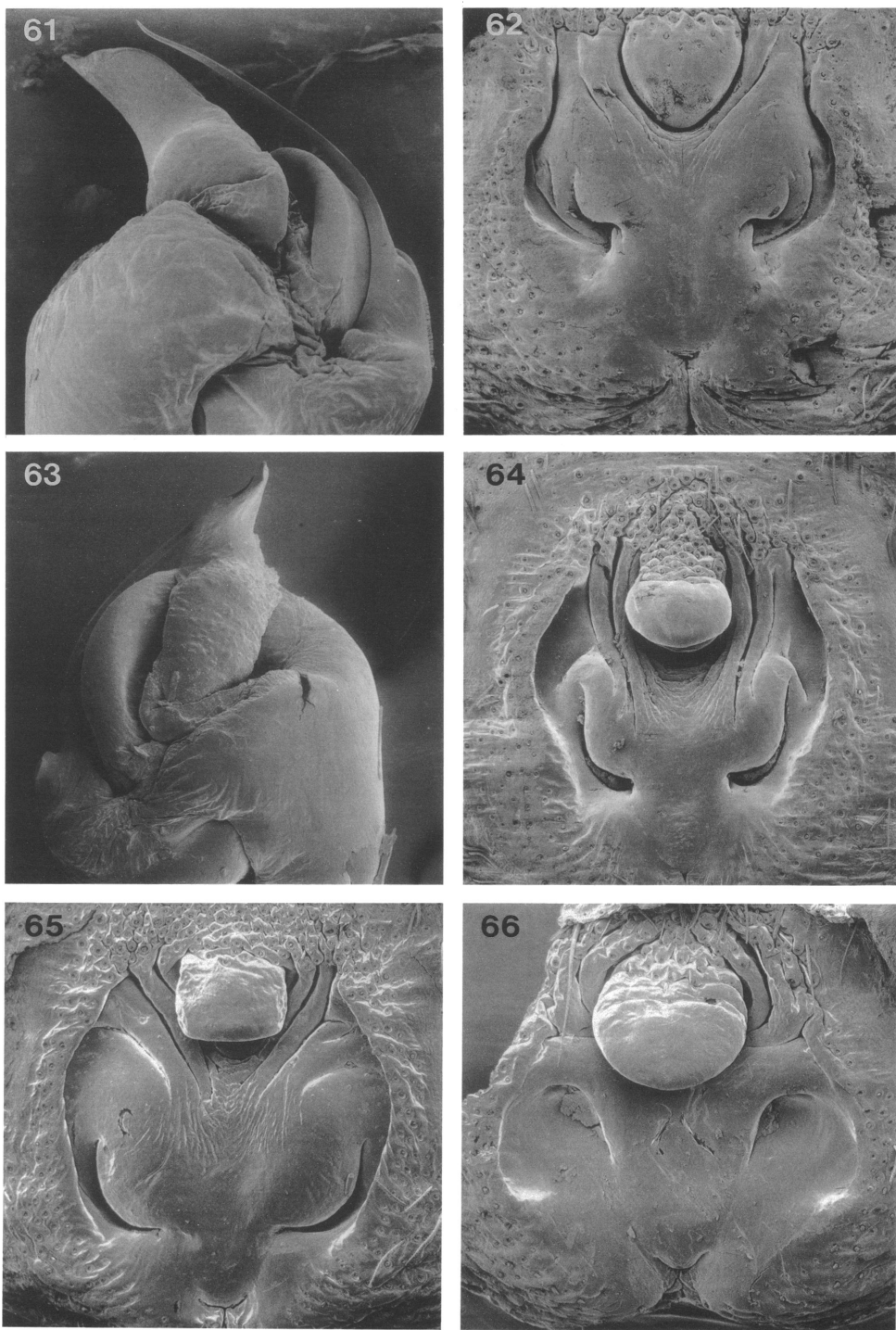
MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

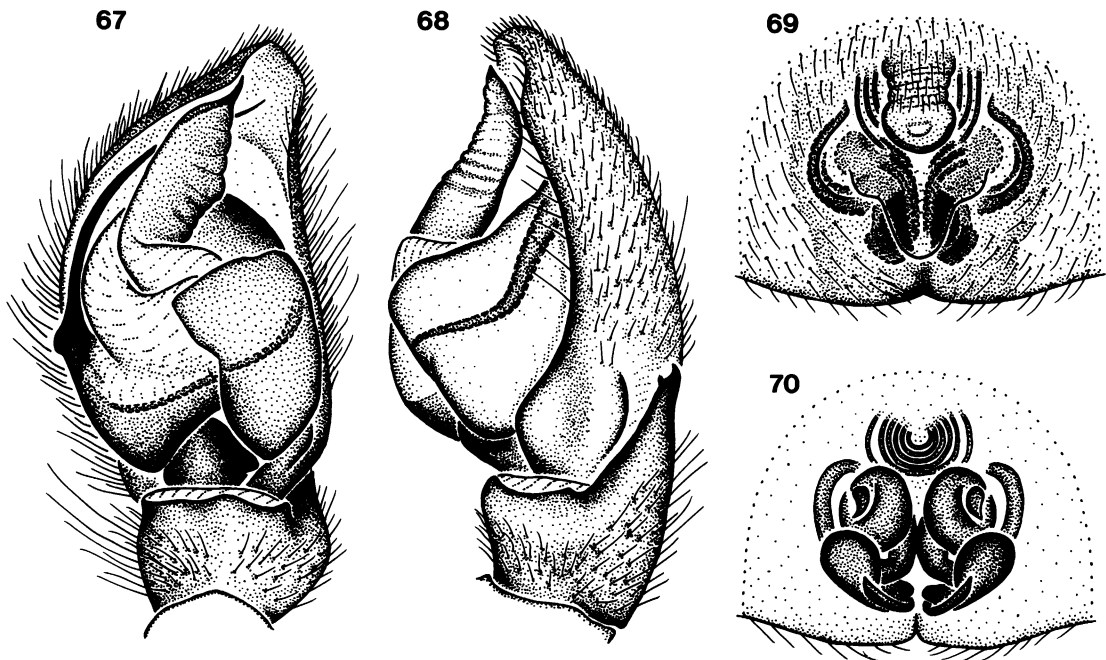
MATERIAL EXAMINED: USSR: **Azerbaijan**: Altyagach, Apsheronsk area, May 19, 1979, elev. 1000 m (P. M. Dunin, ZIP), 2♂, 1♀; Anykh, Mt. Bolshoi Suvol, Kusary, June 15, 1983, elev. 2000 m (P. M. Dunin, ZIP), 1♀. **Russia**: *North Osetiya*: Alagir gorge, June 11–July 9, 1985 (S. K. Alekseev, ZIP), 1♀; Khunratkhokh Mt., Ardon River, Skalist Mt. range, June 2–Nov. 2, 1985, elev. 2500 m, pitfall traps (S. K. Alekseev, ZIP), 6♂, 6♀. **Samara**: Udeikino, July 3, 1961 (V. P. Tyschchenko, ZIP), 1♀. **Ukraine**: *Zakarpate*: E slope Mt. Chernaya Gora, Vinogradovsk area, May 31–June 21, 1981, elev. 200–250 m, pitfall traps (A. G. Koval, ZIP), 1♂, 3♀.

DISTRIBUTION: Northern Caucasus, Azerbaijan, and Europe (map 5).

SYNONYMY: Although we (like Chyzer and Kulczyński, 1897: 189) have not been able to examine the holotype of *G. soror*, we have examined a female from Orsova, Mehedinti, Romania, so identified in the Herman collection (HNHM), and found no significant differences between that specimen and other females of *G. lugubris*.



Figs. 61–66. 61, 62. *Gnaphosa lugubris* (C. L. Koch). 63, 64. *G. taurica* Thorell. 65. *G. pseashcho*, new species. 66. *G. zhaoi*, new species. 61, 63. Male palp, ventral view. 62, 64–66. Epigynum, ventral view.



Figs. 67–70. *Gnaphosa occidentalis* Simon. 67. Left male palp, ventral view. 68. Same, retrolateral view. 69. Epigynum, ventral view. 70. Same, dorsal view.

Gnaphosa taurica Thorell

Figures 63, 64, 71–74; Map 9

Gnaphosa taurica Thorell, 1875: 84 (male lectotype, here designated, from Simferopol, Crimea, Ukraine, USSR, in NRS, examined). – Spassky, 1925: 33, fig. 43.

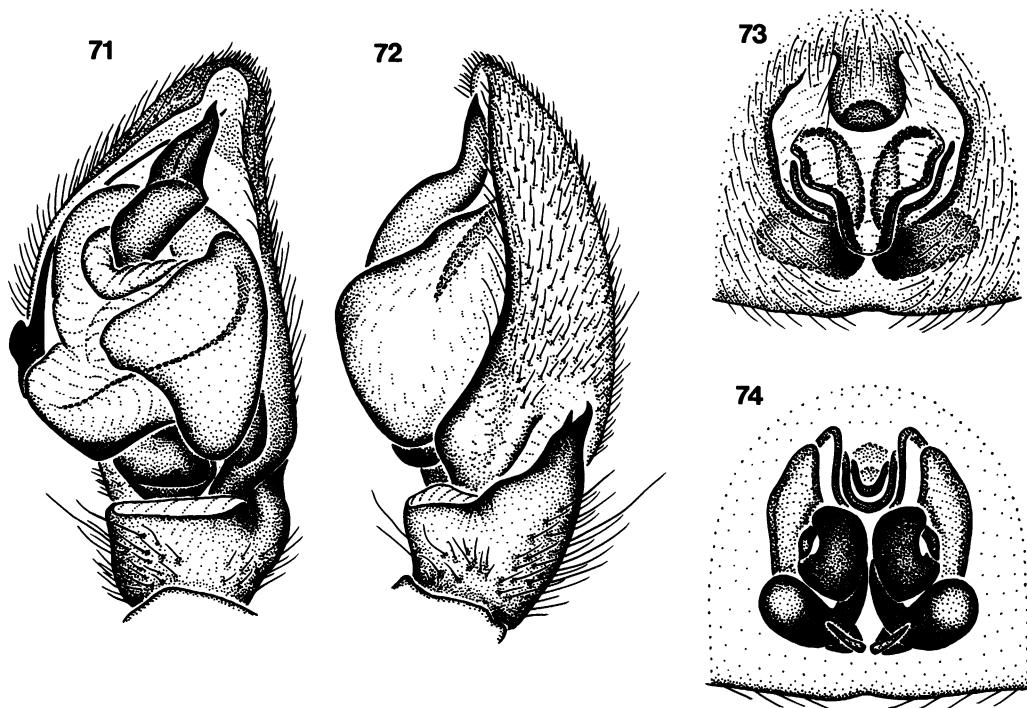
DIAGNOSIS: This species seems to be an eastern vicariant of the Western European *G. occidentalis* Simon (see figs. 67–70; cf. Roberts, 1985: 76, fig. 28b); males of *G. taurica* can be separated by the larger basal tubercle on the embolus, the differently curved median apophysis, and the larger tubercle on the retrolateral tibial apophysis (figs. 63, 71, 72), females by the rounded epigynal atrium, rebordered epigynal midpiece, and wide, closely spaced median epigynal ducts (figs. 64, 73, 74). The suggestion by some authors that *G. occidentalis* might be a subspecies of *G. lugubris* seems unsupportable; the bifid retrolateral tibial apophysis and basal embolar tubercle of *G. occidentalis* appear to be synapomorphies uniting that species with *G. taurica* rather than *G. lugubris*.

MALE: Described by Thorell (1875).

FEMALE: Described by Spassky (1925).

MATERIAL EXAMINED: USSR: Azerbaijan:

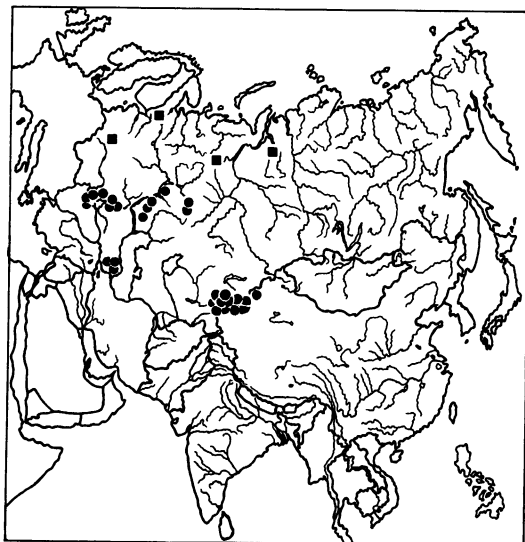
Akhsu, Verchnii Dashkesan, Khanlarsk area, July 6, 1981, elev. 2000 m (A. A. Zyuzin, ZIP, AMNH), 5♂, 6♀; Akhsu, July 8, 1981, under stones (A. A. Zyuzin, ZIP), 3♀; Azat, May 9, 1986 (P. M. Dunin, ZIP), 1♂, 3♀. **Kazakhstan: Uralsk:** Dzhanibek, May 4, 1975 (Y. I. Chernov, ZIP), 1♂, May 28–July 2, 1982 (K. G. Mikhailov, ZIP), 6♂, 10♀. **Kirghizia: Frunze:** Ala-Arga River, Apr. 8, 1983, elev. 2000 m (S. V. Ovchinnikov, ZIP), 1♀; Chichkan gorge, Kirghiz Mt. range, Aug. 11, 1986 (S. V. Ovchinnikov, ZIP), 1♀. **Issyk-Kul:** Chok-Urakty, May 20, 1985, elev. 2600 m (S. L. Zonstein, ZIP), 1♀; Chon-Kurchak, Kirghiz Mt. range, July 2, 1986 (S. V. Ovchinnikov, ZIP), 1♂, 1♀; Issyk-Ata gorge, Kirghiz Mt. range, June 24, 1984, elev. 1700 m (S. V. Ovchinnikov, ZIP), 1♀; Santash, Aug. 15, 1982 (S. V. Ovchinnikov, ZIP), 1♀. **Naryn:** Khodzha-Ata River, May 20, 1982 (S. L. Zonstein, ZIP), 1♀. **Osh:** Arkhit, Chatkal Mt. range, Sary-Chelek Reservation, July 8, 1983, under stones (K. G. Mikhailov, ZIP), 4♀; Chok-Urgecty, Kumei-Alato, Aug. 22, 1982, pine forest (S. V. Ovchinnikov, ZIP), 1♀; Iri-



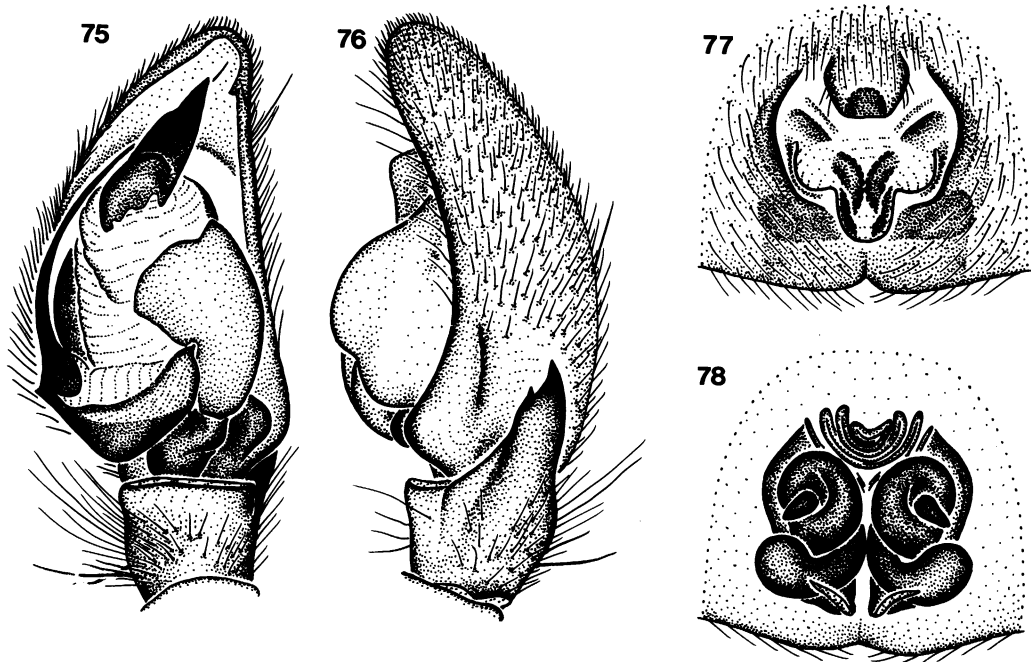
Figs. 71–74. *Gnaphosa taurica* Thorell. 71. Left male palp, ventral view. 72. Same, retrolateral view. 73. Epigynum, ventral view. 74. Same, dorsal view.

Kol Lake, Sary-Chelek Reservation, May 16, 1982 (S. V. Ovchinnikov, ZIP), 1♀; Kok-Kolot, Sary-Chelek Reservation, May 21, 1982 (S. V. Ovchinnikov, ZIP), 1♀; Tumanyak gorge, June 23–Aug. 1, 1983, elev. 1400 m, pitfall traps (K. G. Mikhailov, ZIP), 2♀. *Talas*: Bech-Tash, Talasskii Mt. range, Aug. 18, 1986 (S. V. Ovchinnikov, ZIP), 1♀; Itagar, Talasskii Mt. range, June 6, 1987 (S. L. Zonstein, ZIP), 2♂; 5 km S Konsomkul, Suusamy-Too, Aug. 22, 1986 (S. V. Ovchinnikov, ZIP), 1♀; Shilbili gorge, Sonkul Mt. range, July 9, 1987 (S. V. Ovchinnikov, ZIP), 1♀. **Russia**: *Bashkiriya*: Bashkirskii Reservation, May–July 1976 (T. N. Grigoreva, ZIP), 2♂, 4♀; Zilairskii, nr. Kananikolska, Aug. 10, 1987 (V. E. Efimik, ZIP), 2♀. *Rostov-na-Donu*: Dzhuraksal River, 2 km SW Runo, Zavetinsk area, June 25, 1973 (A. V. Ponomarev, ZIP), 1♂; near Rostov-na-Donu, June 19, 1974 (A. V. Ponomarev, ZIP), 5♂, 1♀. *Samara*: Mt. Bashilova, Zhigulevskii Reservation, July 20, 1981 (V. I. Ovtsharenko, ZIP), 2♀. *Volgograd*: Elton Lake, June 26–27, 1982 (A. V. Bykov, ZIP), 1♀. **Ukraine**: *Crimea*: Simfer-

opol (A. von Nordmann, NRS), 1♂ (lectotype); “Arabat,” May 17, 1861 (MZH), 1♂ (paralectotype); Karasevka, Belogorsk area,



Map 9. Distribution of *Gnaphosa taurica* (●) and *G. lapponum* (■).



Figs. 75–78. *Gnaphosa pilosa* Saveljeva. 75. Left male palp, ventral view. 76. Same, retrolateral view. 77. Epigynum, ventral view. 78. Same, dorsal view.

June 4, 1981 (V. A. Bragina, ZIP), 1♀. *Dnepropetrovsk*: “Jekaterinoslaw” [Dnepropetrovsk] (A. von Nordmann, MZH), 1♂ (paralectotype); *Zaporozhe*: Altagir, Melitopol, June 3, 1980 (P. M. Dunin, ZIP), 1♂, 1♀. *CHINA*: *Xinjiang*: Zhaosu, Aug. 8, 1982 (Hu, IZB), 1♀.

DISTRIBUTION: Steppe zone of Eurasia (map 9).

Gnaphosa pilosa Saveljeva

Figures 75–78; Map 10

Gnaphosa pilosa Saveljeva, 1972: 1240, figs. 3, 4 (female holotype from Kalba, Kalba Mt. range, Vostochno-Kazakhstanskaya, Kazakhstan, USSR, in ZIP, examined).

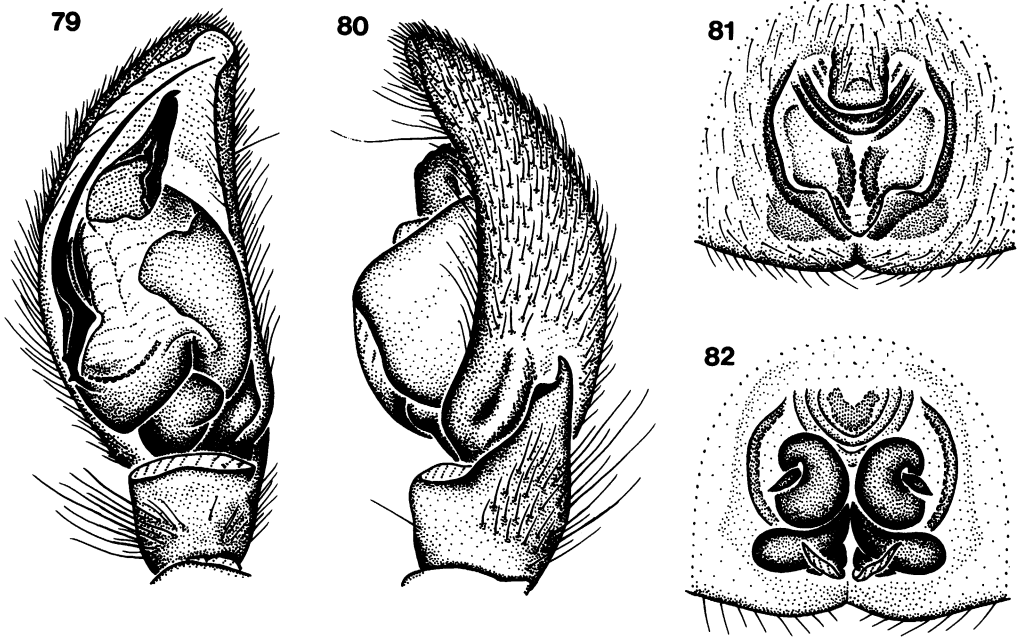
DIAGNOSIS: Males resemble those of *G. occidentalis* and *G. taurica* in having a bifid retrolateral terminal apophysis, but can be distinguished from them by the tiny basal embolar tubercle and distally narrowed median apophysis (figs. 75, 76), females by the wide epigynal midpiece and almost fully coiled median epigynal ducts (figs. 77, 78).

MALE: Total length 12.80. Carapace 5.60

long, 4.80 wide. Femur II 4.00 long. Eye sizes and interdistances: AME 0.13, ALE 0.21, PME 0.20, PLE 0.18; AME-AME 0.16, AME-ALE 0.08, PME-PME 0.06, PME-PL 0.36, ALE-PL 0.39; MOQ length 0.58, front width 0.47, back width 0.45. Palp with long embolus and curved median apophysis narrowing to point at tip (fig. 75); retrolateral tibial apophysis bifid (fig. 76). Leg spination: femora I, II p0-1-1; patella IV r0-1-0; tibia IV d0-0-0; metatarsi: III v2-2-2, r1-1-1; IV r1-0-2.

FEMALE: Described by Saveljeva (1972).

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Karaganda*: Mt. Kent, July 24–25, 1957, steppe slope, under stones (V. P. Tyschchenko, ZIP), 13♀. *Semipalatinsk*: Shagan River, 30 km S Sarzhal, Abai area, May 1990 (V. Tishchenko, AMNH, ZIP), 1♂, 2♀. *Vostochno-Kazakhstanskaya*: Kalba, Kalba Mt. range, June 12, 1969 (L. G. Saveljeva, ZIP), 2♂, 2♀ (including holotype), May 1971 (L. G. Saveljeva, ZIP), 1♀; Ust-Kamenogorsk, Aug. 11, 1986 (L. G. Saveljeva, ZIP), 8♀; Aug. 15–21, 1987 (L. G. Saveljeva, ZIP), 8♀.



Figs. 79–82. *Gnaphosa pseashcho*, new species. 79. Left male palp, ventral view. 80. Same, retrolateral view. 81. Epigynum, ventral view. 82. Same, dorsal view.

DISTRIBUTION: Eastern Kazakhstan, USSR (map 10).

***Gnaphosa pseashcho*, new species**

Figures 65, 79–82; Map 10

TYPES: Male holotype and female allotype from Mt. Pseashcho, Kavkazskii Reservation, Krasnodar, Russia, USSR (July 23, 1975; V. I. Ovtsharenko), deposited in ZIP.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

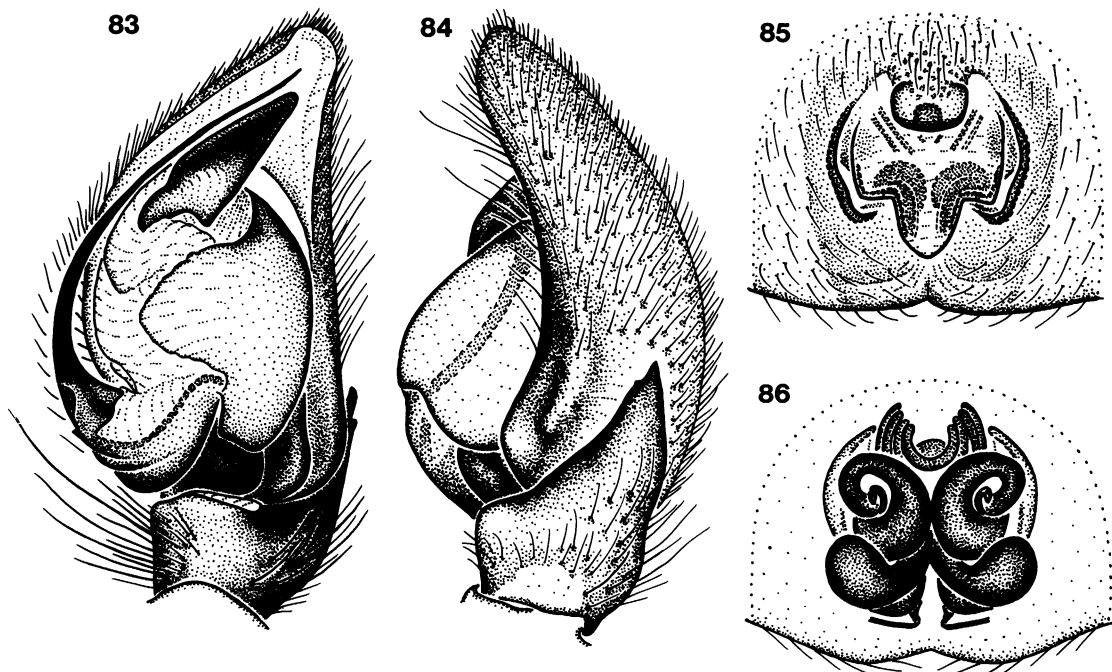
DIAGNOSIS: The bifid retrolateral tibial apophysis groups this species with *G. occidentalis*, *G. taurica*, *G. caucasica*, and *G. pilosa*. Males resemble those of the latter two species in having only a small tubercle on the embolar base, but differ in having a much narrower terminal apophysis (fig. 79); females can be recognized by the nearly parallel-sided epigynal atrium (figs. 65, 81).

MALE: Total length 8.82. Carapace 4.20 long, 3.50 wide. Femur II 2.80 long. Eye sizes and interdistances: AME 0.09, ALE 0.16, PME 0.15, PLE 0.16; AME-AME 0.15, AME-ALE 0.04, PME-PME 0.05, PME-PLE 0.27, ALE-PLE 0.28; MOQ length 0.39, front width

0.32, back width 0.36. Palp with median apophysis greatly narrowed distally (fig. 79); retrolateral tibial apophysis with two tips (fig. 80). Leg spination: femur II r0-1-1; tibiae: I



Map 10. Distribution of *Gnaphosa pilosa* (●) and *G. pseashcho* (■).



Figs. 83–86. *Gnaphosa caucasica*, new species. 83. Left male palp, ventral view. 84. Same, retrolateral view. 85. Epigynum, ventral view. 86. Same, dorsal view.

v0-0-0; III r1-1-1; IV d0-0-0; metatarsus III v2-2-2, r1-1-2.

FEMALE: Total length 12.20. Carapace 5.60 long, 4.10 wide. Femur II 3.20 long. Eye sizes and interdistances: AME 0.12, ALE 0.17, PME 0.15, PLE 0.17; AME-AME 0.16, AME-ALE 0.04, PME-PME 0.08, PME-PLE 0.35, ALE-PLE 0.39; MOQ length 0.53, front width 0.38, back width 0.42. Epigynal atrium with nearly parallel lateral margins (figs. 65, 81); spermathecae with wide, approximate median ducts (fig. 82). Leg spination: femur II r0-1-1; tibiae: I v0-0-0; III r1-1-1; IV d0-0-0, p1-1-1; metatarsus III v2-2-2, r1-1-2.

OTHER MATERIAL EXAMINED: USSR: **Russia:** *Krasnodar:* Kavkazskii Reservation, Mt. Abago, July 15–26, 1974, elev. 2600 m (V. I. Ovtsharenko, ZIP), 2♀; Mt. Pseashcho, July 22, 1975, elev. 2500–3000 m (V. I. Ovtsharenko, ZIP), 3♀, July 23–24, 1976, elev. 2500 m (V. I. Ovtsharenko, ZIP), 14♀; Mt. Mramornaya, July 25, 1975, elev. 2800 m (V. I. Ovtsharenko, ZIP), 1♀.

DISTRIBUTION: Known only from the western Caucasus Mountains, USSR (map 10).

NATURAL HISTORY: Specimens have been

collected at elevations between 2500–3000 m, under stones in the alpine zone.

Gnaphosa caucasica, new species

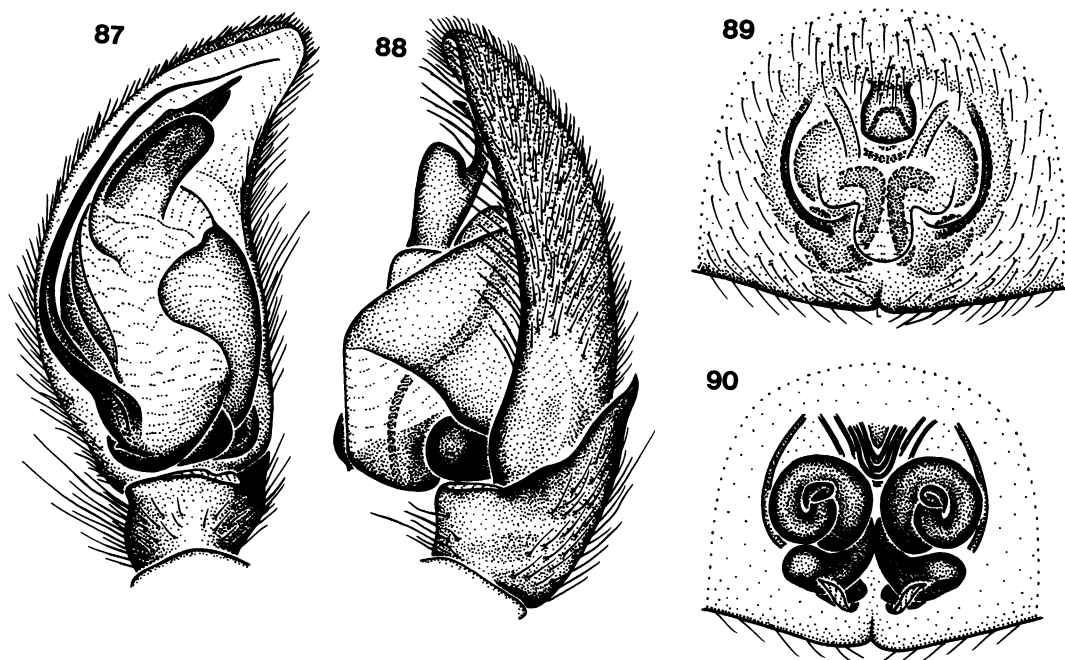
Figures 83–86; Map 6

TYPES: Male holotype and female allotype taken in pitfall traps at the North Osetiya Reservation, Tsei Mt. range, North Osetiya, Russia, USSR (Sept. 8–29, 1985; S. K. Alekseev), deposited in ZIP.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: This species closely resembles *G. pilosa* and *G. pseashcho*; males can be distinguished by the narrower tip and less protuberant base of the median apophysis (fig. 83), females by the less pronounced openings at the base of the atrium (fig. 85) and more laterally directed median epigynal ducts (fig. 86).

MALE: Total length 9.60. Carapace 4.40 long, 3.30 wide. Femur II 2.60 long. Eye sizes and interdistances: AME 0.10, ALE 0.15, PME 0.16, PLE 0.12; AME-AME 0.14, AME-ALE 0.05, PME-PME 0.06, PME-PLE 0.23,



Figs. 87–90. *Gnaphosa lapponum* (L. Koch). 87. Left male palp, ventral view. 88. Same, retrolateral view. 89. Epigynum, ventral view. 90. Same, dorsal view.

ALE-PLE 0.30; MOQ length 0.42, front width 0.35, back width 0.40. Palp with large basal margin of embolus and sharply narrowed median apophysis (fig. 83); retrolateral tibial apophysis narrow, with two tips (fig. 84). Leg spination: tibiae: I v0-0-0; IV d0-0-0; metatarsus III v2-2-2, r1-1-2.

FEMALE: Total length 8.80. Carapace 4.10 long, 3.20 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.10, ALE 0.16, PME 0.15, PLE 0.12; AME-AME 0.10, AME-ALE 0.02, PME-PME 0.05, PME-PLE 0.21, ALE-PLE 0.25; MOQ length 0.41, front width 0.32, back width 0.38. Epigynum with atrium open anteriorly (fig. 85); spermathecae with coiled narrow median ducts (fig. 86). Leg spination: patella III r0-0-0; tibiae I v0-0-0; metatarsus III p1-1-2, r1-1-2.

OTHER MATERIAL EXAMINED: USSR: **Russia:** *Krasnodar:* Karachai, Ulu Khurzuk River, July 9–31, 1935 (Dyakonov, ZIP), 1♀; Mt. Malaya Khatipara, alpine zone, elev. 2800 m (V. Spiridonov, ZIP), 1♂. *North Osetiya:* Tsei Mt. range, North Osetiya Reservation, June 8–Sept. 29, 1985, elev. 2300–3000 m (S. K. Alekseev, ZIP), 4♂, 1♀. *Stavropol:* Teberdin-

skaa Reservation, July 13–16, 1983 (K. G. Mikhailov, ZIP, AMNH), 11♂.

DISTRIBUTION: Known only from the northern slope of the major Caucasian Mt. range, USSR (map 6).

Gnaphosa lapponum (L. Koch)

Figures 87–90; Map 9

Pythonissa lapponum L. Koch, 1866: 33, figs. 23–25 (male and female syntypes from Lappland, may be in BMNH, not examined).

Gnaphosa lapponum: Thorell, 1871: 193. – Grimm, 1985: 55, figs. 51, 68, 69. – Heimer and Nentwig, 1991: 424, figs. 1121.1–4.

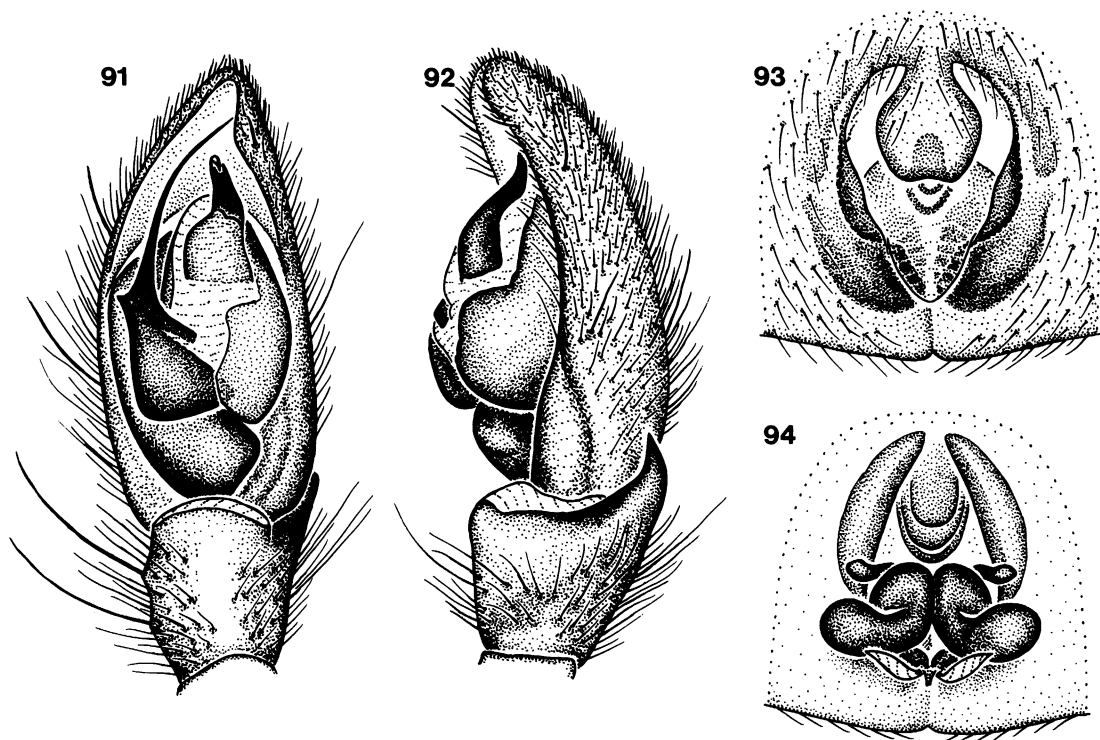
NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: Males can easily be recognized by the greatly elaborated base of the median apophysis (figs. 87, 88), females by the large, rounded epigynal atrium and fully coiled median epigynal ducts (figs. 89, 90).

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: USSR: **Byelorussia:** Berezinskii Reservation, Aug. 23, 1981



Figs. 91–94. *Gnaphosa tuvinica*, new species. 91. Left male palp, ventral view. 92. Same, retrolateral view. 93. Epigynum, ventral view. 94. Same, dorsal view.

(Shlakhtenok, ZIP), 1♂. **Russia:** *Kareliya*: Petrozavodsk, June 6, 1979 (S. D. Uzenbaev, ZIP), 1♂, 1♀. *Komi*: Pechero-Ilychskii Reservation, July 5, 1975 (N. M. Pachorukov, ZIP), 2♂. *Tyumen*: 100 km E Samburg, Pur River, Aug. 1989 (I. V. Muratov, ZIP), 5♂.

DISTRIBUTION: Northern Europe and northwestern Asia (map 9).

Gnaphosa tuvinica Marusik and Logunov
Figures 91–94; Map 1

Gnaphosa tuvinica Marusik and Logunov, 1992: in press (male holotype from 4–5 km SW Mugur-Aksy, Tuva, Russia, USSR, in ZIP, examined).

DIAGNOSIS: This species is of uncertain placement; males resemble those of *G. lugubris* and *G. reikhardi*, but can be distinguished by the large basal tubercle on the prolateral side of the embolus and the short, triangular retrolateral tibial apophysis (figs. 91, 92). Females can be recognized by the anteriorly narrowed epigynal hood, wide me-

dian epigynal midpiece, and extremely wide, closely spaced epigynal ducts (figs. 93, 94).

MALE: Described by Marusik and Logunov (1992).

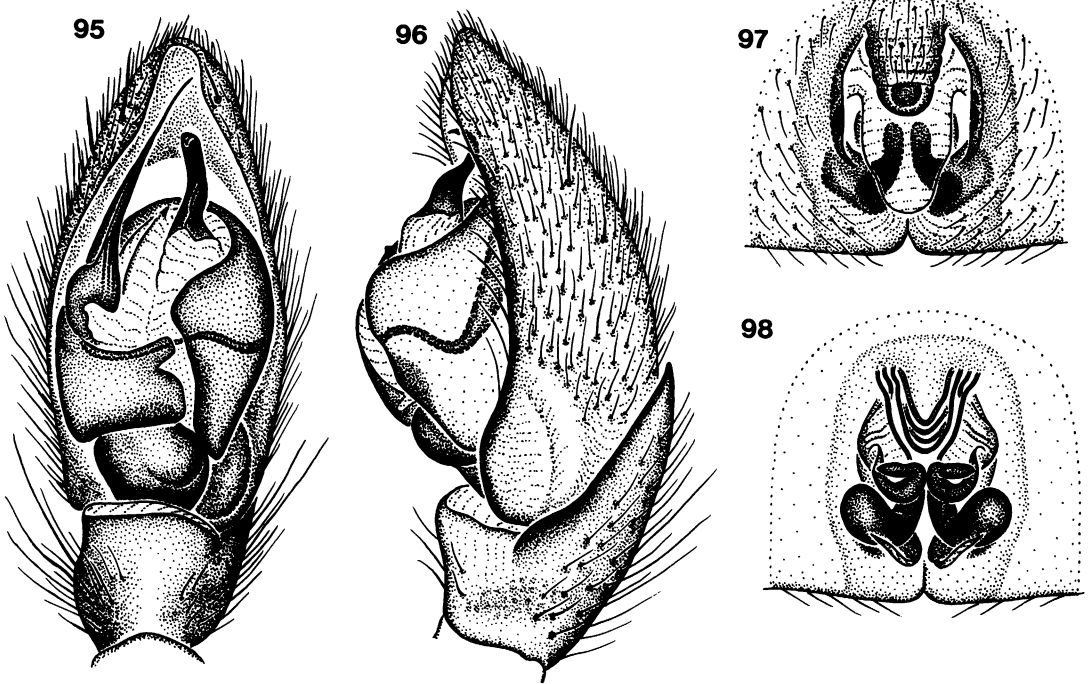
FEMALE: Described by Marusik and Logunov (1992).

MATERIAL EXAMINED: USSR: **Russia:** *Tuva*: 3–4 km SW Mugur-Aksy, May 18, 1990, elev. 1900 m, mountain steppe (D. V. Logunov, ZIP), 1♂; 4–5 km SW Mugur-Aksy, June 7, 1990, elev. 2000–2200 m (O. V. Lyakhov, ZIP), 1♂ (holotype); 5 km W Mugur-Aksy, Kuge-Davaa River, May 18, 1990, elev. 2000 m (D. V. Logunov, ZIP), 5♀.

DISTRIBUTION: Known only from the type locality in Tuva, Russia, USSR (map 1).

THE RUFULA GROUP

Males belonging to this group typically have a ledgelike basal extension on the prolateral side of the embolus; females have a wide epigynal midpiece that typically fills most of the epigynal atrium. The only known New World



Figs. 95–98. *Gnaphosa rufula* (L. Koch). 95. Left male palp, ventral view. 96. Same, retrolateral view. 97. Epigynum, ventral view. 98. Same, dorsal view.

species that might belong to this group is *G. brumalis* Thorell (see Platnick and Shadab, 1975: 41, figs. 94–100).

0.30, back width 0.31. Epigynal atrium deep, with long, parallel lateral margins and wide midpiece (fig. 97); spermathecae with long,

Gnaphosa rufula (L. Koch)

Figures 95–98; Map 11

Pythonissa rufula L. Koch, 1866: 20, figs. 13–14 (male lectotype, here designated, from Sarepta [Krasnoarmeisk], Volgograd, Russia, USSR, in BMNH, examined; not fig. 12, female paralectotypes, = *G. steppica*).

Gnaphosa rufula: Thorell, 1875: 47.

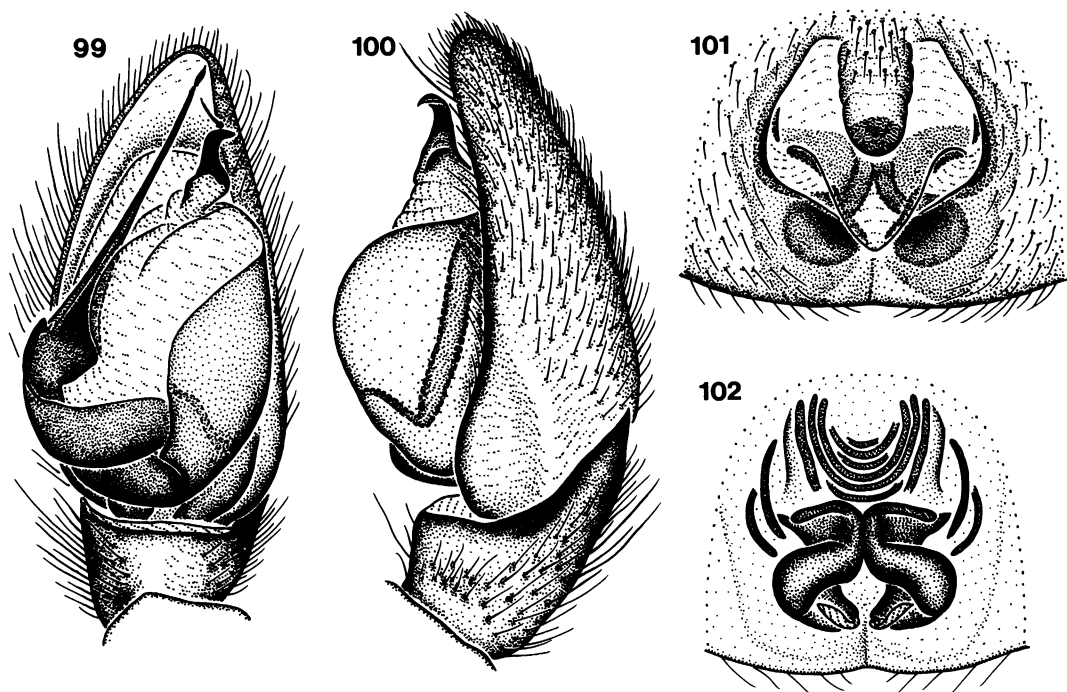
DIAGNOSIS: Males can be recognized by the rounded basal prolateral protuberance on the embolus (figs. 95, 96) and the wide epigynal midpiece and long, wide median epigynal ducts of females (figs. 97, 98).

MALE: Described by Koch (1866).

FEMALE: Total length 6.40. Carapace 3.40 long, 2.50 wide. Femur II 1.80 long. Eye sizes and interdistances: AME 0.10, ALE 0.15, PME 0.12, PLE 0.12; AME-AME 0.11, AME-ALE 0.02, PME-PME 0.05, PME-PL 0.21, ALE-PL 0.23; MOQ length 0.38, front width



Map 11. Distribution of *Gnaphosa rufula* (●) and *G. inconspicua* (■).



Figs. 99–102. *Gnaphosa inconspecta* Simon. 99. Left male palp, ventral view. 100. Same, retrolateral view. 101. Epigynum, ventral view. 102. Same, dorsal view.

wide median ducts (fig. 98). Leg spination: femur IV p0-0-0, r0-0-1; tibiae: I v0-0-0; III p1-1-1, r0-1-1; IV d0-0-0, p1-0-1; metatarsus III r1-1-2.

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Tselinograd:* Kokshetau, June 15, 1957 (V. P. Tyschchenko, ZIP), 1♀. **Russia:** *Volgograd:* “Sarepta” [Krasnoarmeisk] (BMNH), 1♂ (lectotype).

DISTRIBUTION: Volgograd, Russia and northern Kazakhstan, USSR (map 11).

Gnaphosa inconspecta Simon

Figures 99–102; Map 11

Gnaphosa inconspecta Simon, 1878: 187 (two male syntypes from the Pyrénées, France, in MNHN, examined by J. Wunderlich); 1914: 196, 202, figs. 427, 428, 447.

Gnaphosa sp.: Grimm, 1985: 83, fig. 47.

DIAGNOSIS: This species can be distinguished by the long, straight embolus and small conductor of males (figs. 99, 100) and the wide epigynal midpiece, long lateral epigynal margins, and anteriorly narrow, curved

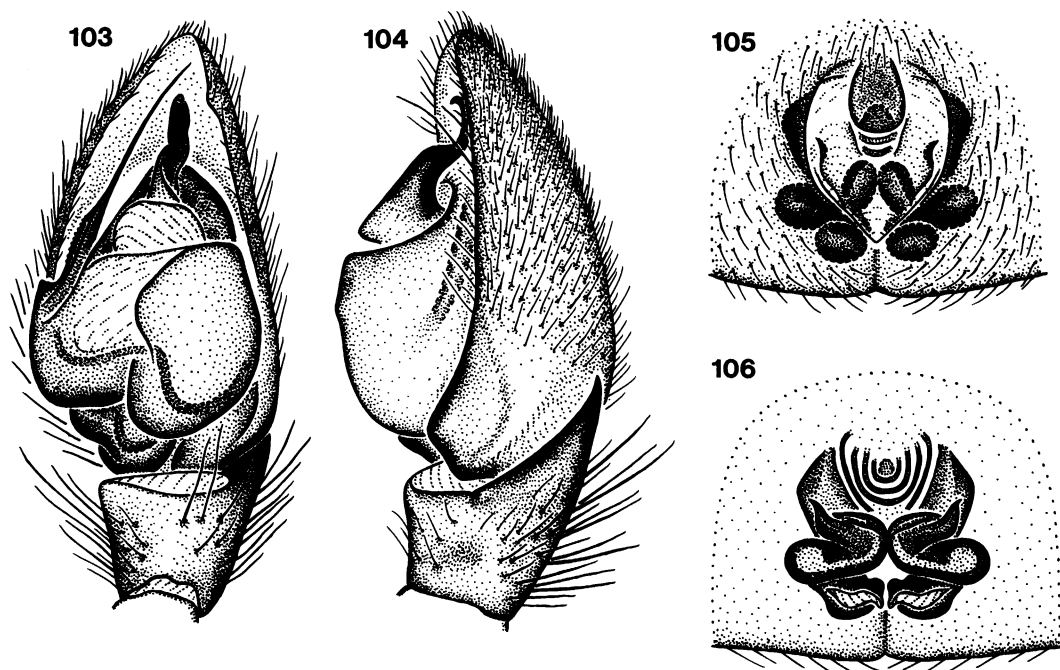
median epigynal ducts of females (figs. 101, 102).

MALE: Described by Simon (1878).

FEMALE: Described by Simon (1914).

MATERIAL EXAMINED: USSR: **Russia:** *Krasnoyarsk:* nr. Krasnoyarsk, Apr. 23–28, 1897 (Y. Wagner, ZIP), 1♂. **MONGOLIA:** *Khentei:* 80 km E Under Khan, Morones, Dry-ra, Granit Mt., May 30–June 29, 1979 (Z. Perregi, HMNH), 1♂, 5♀. **CHINA:** *Xizang:* Bomi, June 6, 1980 (IZB), 1♀. **NEPAL:** *Northern Dhaulagiri:* Dolpo, Ringmo, Lake Phoksumdo, June 10–15, 1973, elev. 3600–3800 m, light conifer forest (J. Martens, NMS), 1♂.

DISTRIBUTION: Apparently found throughout the Palearctic, from France to China. The males recorded here seem conspecific with the male from Germany illustrated by Grimm (1985) and examined by us (through the courtesy of J. Wunderlich). That male was also compared with the syntypes of *G. inconspecta* by J. Wunderlich, who considers it to be conspecific with them. Apparently no specimens are known from the area between the western



Figs. 103–106. *Gnaphosa opaca* Herman. 103. Left male palp, ventral view. 104. Same, retrolateral view. 105. Epigynum, ventral view. 106. Same, dorsal view.

European records and the central Asian localities reported here (map 11).

Gnaphosa opaca Herman

Figures 103–106

Gnaphosa opaca Herman, 1879: 195, 364, fig. 171 (male holotype from “Satoraljaujhely,” Hungary, in HMNH, examined). – Miller, 1947: 35, pl. III, fig. 16. – Tyschchenko, 1971: 94, fig. 185. – Grimm, 1985: 78, figs. 45, 64, 65. – Heimer and Nentwig, 1991: 422, figs. 1115.1–4.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: This species seems closest to *G. moesta* and *G. potanini* but can be distinguished by the relatively short prolateral protuberance on the embolus of males (figs. 103, 104) and the small lateral epigynal margins, wide epigynal midpiece, and narrow median epigynal ducts of females (figs. 105, 106).

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: Only specimens from Hungary: “Satoraljaujhely,” 1875 (O. Her-

man, HMNH), 1♂ (holotype); Budapest, Vacs [= Puszta Vacs], Tokaj (C. Chyzer, HMNH), 2♂, 11♀; Ujhely (HMNH), 1♀.

DISTRIBUTION: Europe; most published Soviet records probably refer to other species, but the type locality is near the Ukrainian border and the species can be expected to occur in the Ukraine.

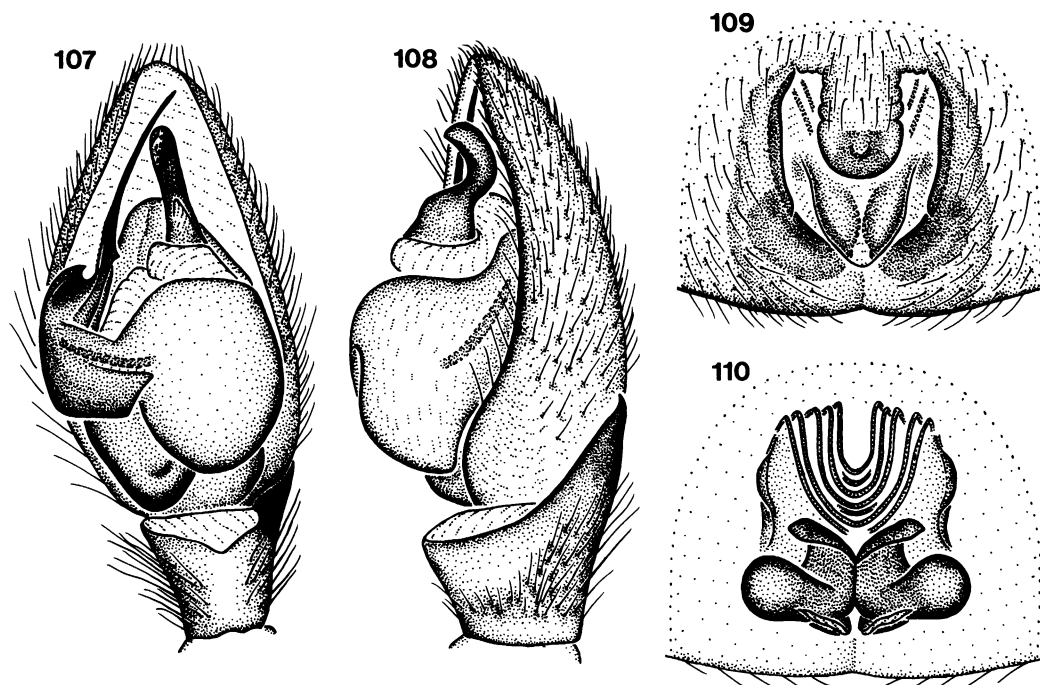
Gnaphosa moesta Thorell

Figures 107–110; Map 12

Gnaphosa moesta Thorell, 1875: 84 (male holotype from Simferopol, Crimea, Ukraine, USSR, in NRS, examined).

Gnaphosa suspecta Herman, 1879: 194, 363, fig. 168 (female holotype from Orsova, Mehedinți, Romania, may be in HMNH, not examined). NEW SYNONYMY.

DIAGNOSIS: This species seems closest to *G. opaca* and *G. potanini*, but can be distinguished by the wide, hooklike basal embolar protuberance and the wide apical portion of the median apophysis of males (figs. 107, 108) and the parallel lateral margins of the epigynal atrium and long median epigynal ducts of females (figs. 109, 110).



Figs. 107–110. *Gnaphosa moesta* Thorell. 107. Left male palp, ventral view. 108. Same, retrolateral view. 109. Epigynum, ventral view. 110. Same, dorsal view.

MALE: Described by Thorell (1875).

FEMALE: Described by Herman (1879).

MATERIAL EXAMINED: USSR: Ukraine:

Crimea: Simferopol (A. v. Nordman, NRS), 1♂ (holotype). Dnepropetrovsk: Orlovshchina, Novomoskovskii area, May 1, 1973 (A. A. Zyuzin, ZIP), 1♀.

DISTRIBUTION: Hungary, Romania, and the Crimea, Ukraine, USSR (map 12).

SYNONYMY: Although we (like Chyzer and Kulczyński, 1897: 183) have not been able to examine the holotype of *G. suspecta*, we have examined a female from Budapest, Hungary, so identified in the Chyzer collection (HNHM). Although males and females have not been taken together, *G. suspecta* is synonymized here because both sexes have been found in southern Ukraine, and each appears to be closely related to *G. opaca* and *G. steppica*.

Gnaphosa potanini Simon

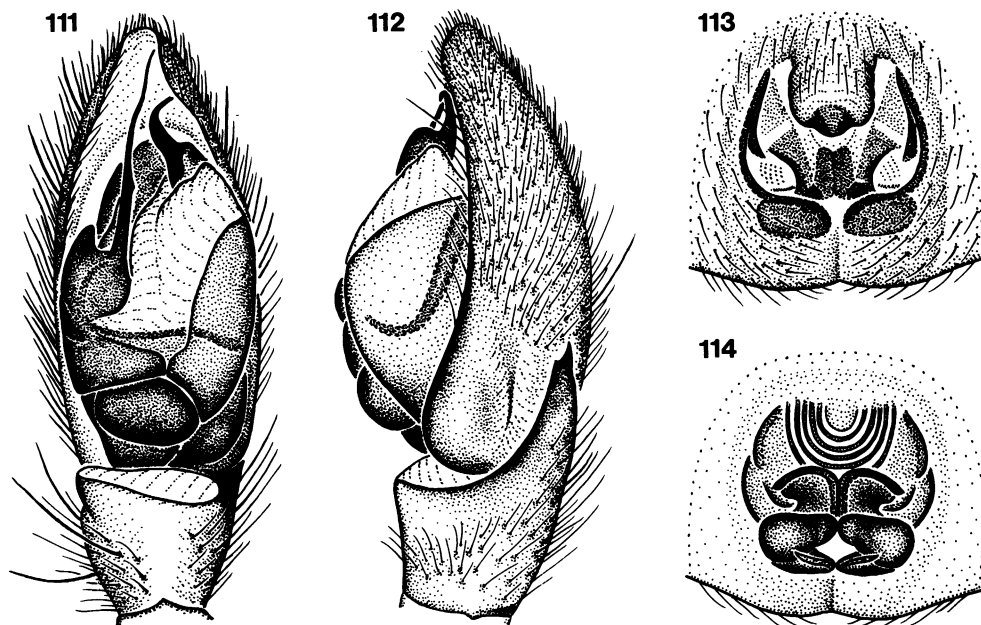
Figures 111–114; Map 12

Gnaphosa potanini Simon, 1895: 333 (presumed female syntype from one of three sites in Mongolia, in MNHN, examined).

Gnaphosa silvicola Kamura, 1988: 9, figs. 5, 6, 20–26 (male holotype from E of Midorogaike Pond,



Map 12. Distribution of *Gnaphosa moesta* (●), *G. potanini* (■), and *G. aborigena* (▲).



Figs. 111–114. *Gnaphosa potanini* Simon. 111. Left male palp, ventral view. 112. Same, retrolateral view. 113. Epigynum, ventral view. 114. Same, dorsal view.

Matsugasaki, Kyoto-shi, Kyoto, Japan, in Arachnological Society of Japan, not examined). – Kim et al., 1988: 147, figs. 6–10. – Paik, 1989: 7, figs. 19–29. NEW SYNONYMY.

DIAGNOSIS: This species seems closest to *G. opaca* and *G. moesta* but can be distinguished by the long, curved embolus, the triangular basal embolar protuberance, and the widened retrolateral tibial apophysis of males (figs. 111, 112) and the elevated lateral margins of the epigynal midpiece, the elevated pair of anterolateral epigynal ridges, and the short, wide median epigynal ducts of females (figs. 113, 114).

MALE: Described by Kamura (1988).

FEMALE: Described by Kamura (1988).

MATERIAL EXAMINED: USSR: **Russia:** *Khabarovsk:* Vyatskoe, Amur River, June 16, 1976 (Ustyugova, ZIP), 1♂. *Primorskii:* Dmitrievka, Chernigovsk area, July 9–Aug. 24, 1989, pitfall traps (A. A. Borok, ZIP), 2♂, 7♀; Ryazanovka, Khasan area, July 1979, pitfall traps (G. A. Belova, ZIP), 6♂. **MONGOLIA:** no specific locality (MNHN), 1♀ (presumably a syntype). **CHINA:** *Anhui:* Xuancheng, Mar. 28, 1982 (J. W. Hou, IZB), 1♂. **KOREA:** Mt. Keumo-san, Kumi, Kyungpook, May 13,

1961 (Y. K. Kim, CKYP), 1♂; Mt. Pargongsaan, Donghwa-sam Taegu, May 9, 1987 (I. S. Jeun, CKYP), 2♀. **JAPAN:** *Kyoto:* Matsugasaki, Sakyo-ku, Kyoto-shi, May 25–June 9, 1982 (T. Kamura, CTK), 2♂, 2♀.

DISTRIBUTION: Eastern Asia, including the far eastern USSR, Mongolia, eastern China, Korea, and Japan (map 12).

SYNONYMY: Simon (1895) provided no illustrations of *G. potanini*, and the species has not been recognized by subsequent workers. Although the MNHN female mentioned above is too small to have been the specimen described by Simon, there is no reason to doubt that it is part of the type series.

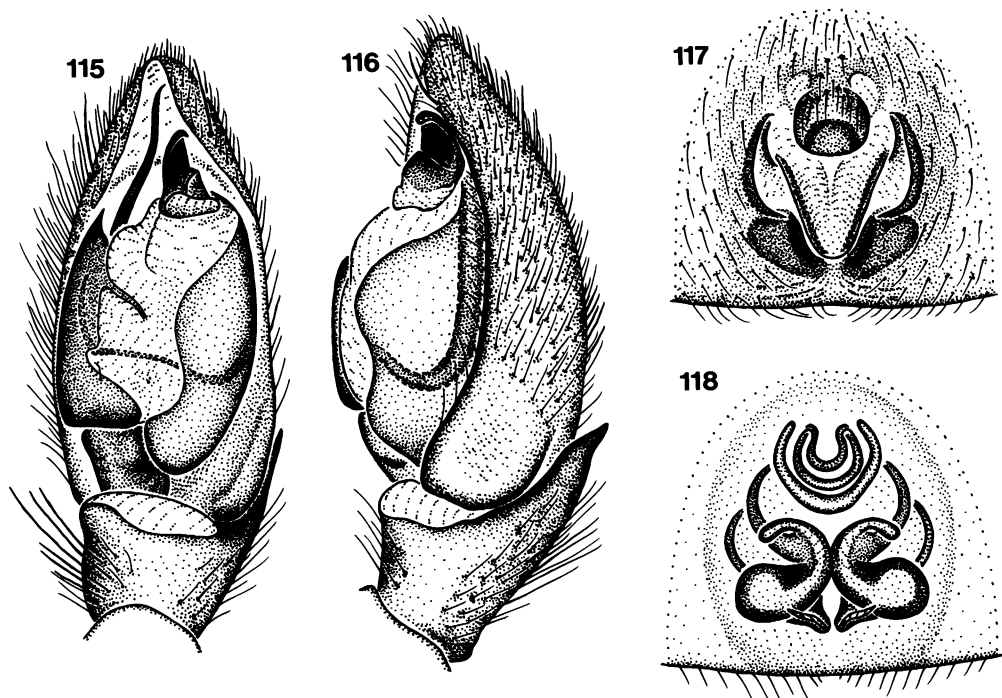
Gnaphosa kamurai, new species

Figures 115–118; Map 3

Gnaphosa alberti: Kamura, 1988: 7, figs. 14–19 (misidentification).

TYPES: Male holotype and female allotype from Machi, Ootsu-shi, Shiga, Japan (July 16, 1976; Y. Nishikawa), deposited in Arachnological Society of Japan.

ETYMOLOGY: The specific name is a patronym in honor of Takahide Kamura, the



Figs. 115–118. *Gnaphosa kamurai*, new species. 115. Left male palp, ventral view. 116. Same, retrolateral view. 117. Epigynum, ventral view. 118. Same, dorsal view.

Japanese arachnologist who first illustrated the species.

DIAGNOSIS: This species can be distinguished by the very short embolus and sharply pointed basal embolar protuberance of males (figs. 115, 116) and the posteriorly narrowed epigynal midpiece and narrow median epigynal ducts of females (figs. 117, 118).

MALE: Described (as *G. alberti*) by Kamura (1988).

FEMALE: Described (as *G. alberti*) by Kamura (1988).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Japan (map 3).

Gnaphosa kansuensis Schenkel

Figures 119–124; Map 7

Gnaphosa kansuensis Schenkel, 1936: 26, fig. 6 (female holotype from Gansu, China, in NRS, examined).

Gnaphosa compirensis: Fox, 1937b: 9 (misidentification, in part).

Gnaphosa alberti Schenkel, 1963: 86, fig. 49 (female holotype from "Dorf Rtygri im Tal des

Luntscho. . . pu", Gansu, China, in MNHN, examined). – Paik, 1989: 6, figs. 14–18. NEW SYNONYMY.

Gnaphosa falculata Schenkel, 1963: 92, figs. 53a–c (male syntype from "Han tschong fu," Shaanxi, China, in MNHN, examined). NEW SYNONYMY.

Gnaphosa roeweri Schenkel, 1963: 94, figs. 54a–c (male holotypes from "Stadt Kui dui (Kuait tö) am Hoang ho," Gansu, China, in MNHN, examined). – Tu and Zhu, 1986: 91, figs. 16–19. NEW SYNONYMY.

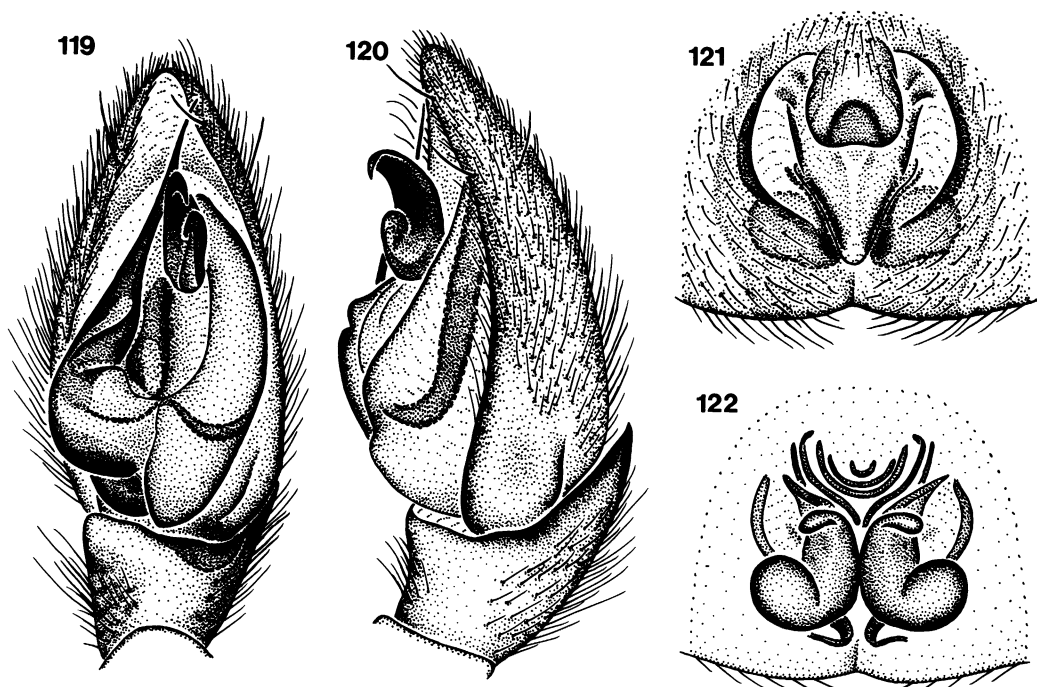
Gnaphosa kompirensis: Paik, 1989: 4, figs. 2–4 (misidentification, some males only).

DIAGNOSIS: This species seems closest to *G. kompirensis* but can be distinguished by the narrow embolar base with a ventral fold but without a tubercle in males (figs. 119, 120, 123) and the narrow epigynal midpiece and wide, anteriorly extended median epigynal ducts of females (figs. 121, 122, 124).

MALE: Described by Schenkel (1963).

FEMALE: Described by Schenkel (1963).

MATERIAL EXAMINED: USSR: Russia: *Pri-morskii*: Kamenushka, Ussuriiskii Reservation, June 8, 1981 (G. Belova, ZIP), 1♀; Dmi-



Figs. 119–122. *Gnaphosa kansuensis* Schenkel. 119. Left male palp, ventral view. 120. Same, retro-lateral view. 121. Epigynum, ventral view. 122. Same, dorsal view.

trievka, Chernigovsk area, June 9–Aug. 29, 1989, pitfall traps (A. A. Borok, ZIP), 25♂, 19♀. CHINA: Gansu: “Dorf Rtygri im Tal des Luntscho. . pu,” May 9, 1885 (G. N. Potanin, MNHN), 1♀ (holotype); Kina (Hummel, NRS), 1♀ (holotype); “Stadt Kui dui (Kuait tö) am Hoang ho,” May 7, 1895 (G. N. Potanin, MNHN), 1♂ (holotype); Zhenyuan, May 17, 1982 (IZB), 1♀. Henan: Xinxian (B. Tsai, CTB), 1♀. Hubei: Junxian, May 8, 1982 (J. Z. Zhao, IZB), 1♀. Shaanxi: “Hantschong fu,” 1873 (A. David, MNHN), 1♂ (holotype). Sichuan: Suifu, June 1930, elev. 1000–1500 ft (D. C. Graham, USNM), 1♀; Yachow [= Yaan], May 1928, elev. 1500–5000 ft (D. C. Graham, USNM), 1♂. Yunnan: Chaotung, 1925 (D. C. Graham, USNM), 2♂; Kunming (M. Silver, AMNH), 1♂, June 5, 1983 (D. X. Song, IZB), 1♀. Zhejiang: Daisihan, Apr. 18, 1980 (IZB), 1♀. KOREA: Kimcheun, Kyungpook, Aug. 15, 1960 (H. J. Lee, CKYP), 1♀; Taegu, June 23, 1955 (I. H. Sohn, CKYP), 1♂.

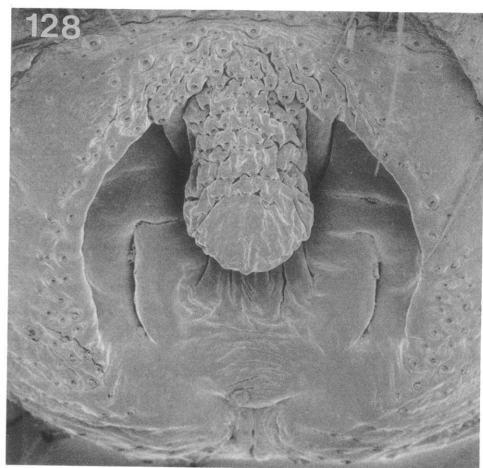
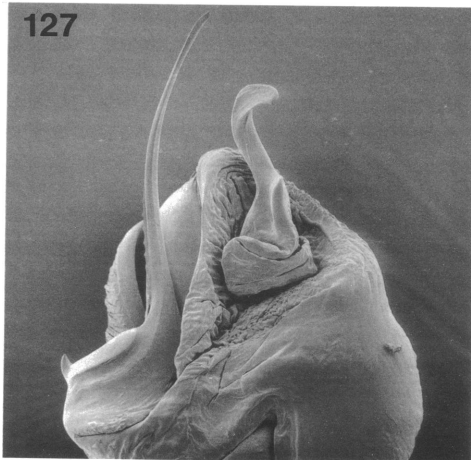
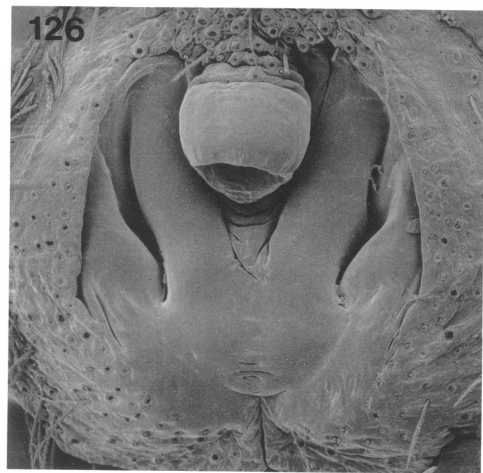
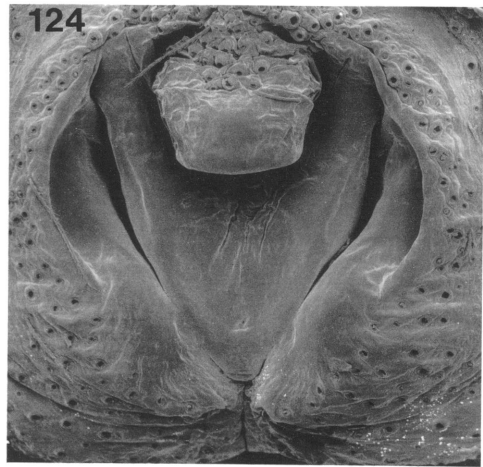
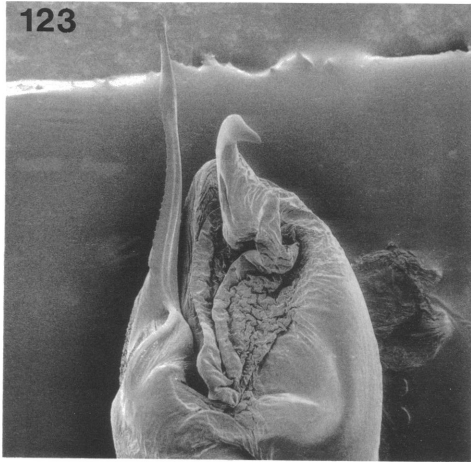
DISTRIBUTION: Far eastern USSR, eastern China, and Korea (map 7).

SYNONYMY: No diagnostic information was provided by Schenkel (1963) for *G. alberti* or *G. falculata* (which was the first described male of the species). Schenkel did provide a paragraph that attempted to describe palpal differences between *G. falculata* and *G. roeweri*, but we have been unable to find any consistent differences among the males now available.

Gnaphosa kompirensis Bösenberg and Strand
Figures 125, 126, 129–132; Map 13

Drassus (*Pythonissa*) *adpersus* Grube, 1861: 170 (female lectotype, here designated, from Ussuri River, Khabarovsk, Russia, USSR, in ZIP, examined). NEW SYNONYMY.

Gnaphosa kompirensis Bösenberg and Strand, 1906: 123, fig. 481 (female holotype from Kompira, Saga, Japan, in NMS, examined). – Hu, 1984: 279, figs. 294.1–4. – Guo, 1985: 142, figs. 2–76.1–4. Yaginuma, 1986: 187, fig. 104.1. – Zhang, 1987: 177, figs. 149.1–4. – Kamura, 1988: 4, figs. 1–4, 7–13. – Paik, 1989: 4, figs. 1, 5–13 (not figs. 2–4, = *G. kansuensis*). – Chikuni, 1989: 119, fig. 9. – Chen and Gao, 1990: 144, figs. 182a, b.



Figs. 123–128. 123, 124. *Gnaphosa kansuensis* Schenkel. 125, 126. *G. kompirensis* Bösenberg and Strand. 127, 128. *G. steppica*, new species. 123, 125, 127. Male palp, ventral view. 124, 126, 128. Epigynum, ventral view.

Gnaphosa annamita Simon, 1908: 78 (female holotype from Hanoi, Vietnam, in MNHN, examined). NEW SYNONYMY.

Gnaphosa suchuana Chamberlin, 1924: 4, fig. 1 (female holotype from Kuliang, Fujian, China, in USNM, examined). NEW SYNONYMY.

Pterotricha adspersa: Roewer, 1955: 374.

Gnaphosa davidi Schenkel, 1963: 87, fig. 50 (female holotype from "Kientschang," Jiangxi, China, in MNHN, examined). NEW SYNONYMY.

NOTE: In the original description by Bösenberg and Strand (1906), the specific name was spelled both as *compirensis* (once, in the heading) and *kompirensis* (twice, in the index and legends). Although Roewer (1955) and Bonnet (1957) used the former spelling, Kamura (1988), acting as first reviser, chose the latter spelling.

The specific name *Drassus adspersus* Grube was, until recently, used only in catalogs (Roewer, 1955, placed the name under *Pterotricha*). Wesołowska (1988) identified part of the syntype series (in the Wrocław collection) as *G. muscorum*. Other syntypes are in ZIP, and include representatives of both *G. kompirensis* and *G. sticta*, with the former chosen here as the lectotype. As with the names *G. microps* and *G. bilineata*, we use the younger name *G. kompirensis* because "a prima facie case that stability is threatened" could be made under Article 79b of the International Code of Zoological Nomenclature. The name *G. kompirensis* has been in regular use over the last 50 years and has received far more than the necessary 10 citations by at least five authors.

DIAGNOSIS: This species seems closest to *G. kansuensis*; males can be distinguished by the small tubercle on the embolar base and the wide retrolateral tibial apophysis (figs. 125, 129, 130), females by the rounded epigynal midpiece and long, narrow median epigynal ducts (figs. 126, 131, 132).

MALE: Described by Kamura (1988).

FEMALE: Described by Schenkel (1963).

MATERIAL EXAMINED: USSR: **Russia:** *Khabarovsk*: Ussuri River, near mouth of Nalihe River, Aug. 12, 1855 (L. Schrenk, ZIP), 1♀ (lectotype). *Primorskii*: Dmitrievka, Chernigovsk area, July 12–15, 1988, pitfall traps (A. A. Borok, ZIP), 1♂, 1♀, June 9–Aug. 24, 1989, pitfall traps (A. A. Borok, ZIP), 43♂,

7♀. CHINA: **Anhui:** Xuancheng, March 28, 1982 (J. W. Hou, IZB), 1♂. **Fujian:** Jianyang, July 5, 1980 (S. X. Shen, IZB), 1♂; Kuliang (N. G. Gee, USNM), 1♀ (holotype). **Guangdong:** Ding Hu Mountain, May 3, 1984 (C. H. Liao, IZB), 1♀; Zhaoging, April 23, 1977 (D. X. Song, IZB), 1♂, 1♀. **Jiangxi:** "Kientschang," 1873 (A. David, MNHN), 1♀ (holotype). KOREA: Jikchi-sa, Keu mreung-gun, Kyungpook, June 10, 1962 (K. Y. Paik, CKYP), 1♀. JAPAN: **Kyoto:** Amanohashidate, Miyazu-shi, July 11, 1985 (A. Ueda, CTK), 1♂, 1♀; Fuchû, Miyazu-shi, Oct. 7, 1984 (T. Kamura, CTK), 1♀; Kunda, Miyazu-shi, May 26, 1982 (T. Kamura, CTK), 1♂; Shimogamo, Kyoto-shi, June 14, 1984 (A. Ueda, CTK), 1♂, July 15, 1985 (A. Ueda, CTK), 1♀. **Mie:** Futami, Watarai-gun, Mar. 26, 1991 (T. Kamura, CTK), 4♀. **Saga:** Kompira, 1882 (Dönitz, NMS), 1♀ (holotype). **Tottori:** Ubenoyama, May 17, 1953 (N. Fukumoto, AMNH), 1♀. **Wayakama:** Nanairo, June 2, 1951 (T. Yaginuma, AMNH), 1♂. VIETNAM: Hanoi (Vaulopger, MNHN), 1♀ (holotype).

DISTRIBUTION: Eastern Russia, China, Korea, and Japan (map 13).

SYNONYMY: No diagnostic information was provided, by the original authors, to distinguish any of the synonyms from *G. kompirensis*, and there appears to be none.

Gnaphosa steppica, new species

Figures 127, 128, 133–136; Map 13

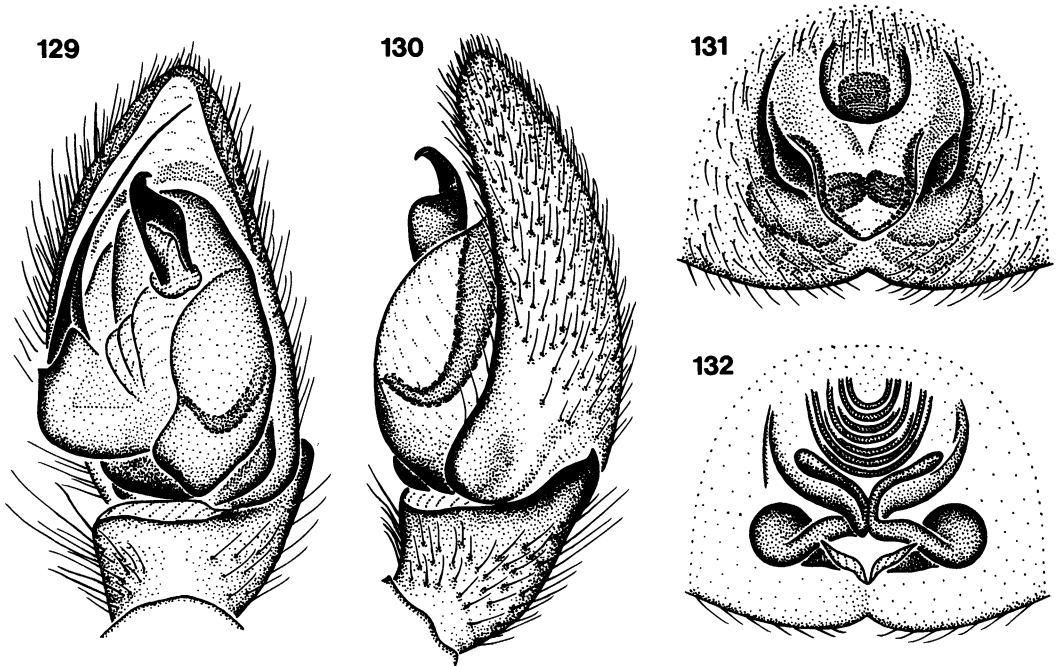
Gnaphosa rufula L. Koch, 1866: 20, fig. 12 (female only; not male lectotype).

TYPES: Male holotype and female allotype from Gelendzhik, Krasnodar, Russia, USSR (June 18–July 15, 1926; S. A. Spassky), deposited in ZIP.

ETYMOLOGY: The specific name refers to the habitat.

DIAGNOSIS: This species resembles the western Mediterranean *G. tigrina* Simon (see Grimm, 1985: figs. 44, 70, 71 and Heimer and Nentwig, 1991: figs. 1114.1–4) but can be recognized by the wide embolar base bearing a sharp tubercle in males (figs. 127, 133, 134) and the long lateral epigynal margins, short epigynal midpiece, and wide median epigynal ducts of females (figs. 128, 135, 136).

MALE: Total length 6.60. Carapace 3.20



Figs. 129–132. *Gnaphosa kompirensis* Bösenberg and Strand. 129. Left male palp, ventral view. 130. Same, retrolateral view. 131. Epigynum, ventral view. 132. Same, dorsal view.

long, 2.45 wide. Femur II 2.20 long. Eye sizes and interdistances: AME 0.09, ALE 0.15, PME 0.12, PLE 0.11; AME-AME 0.10, AME-

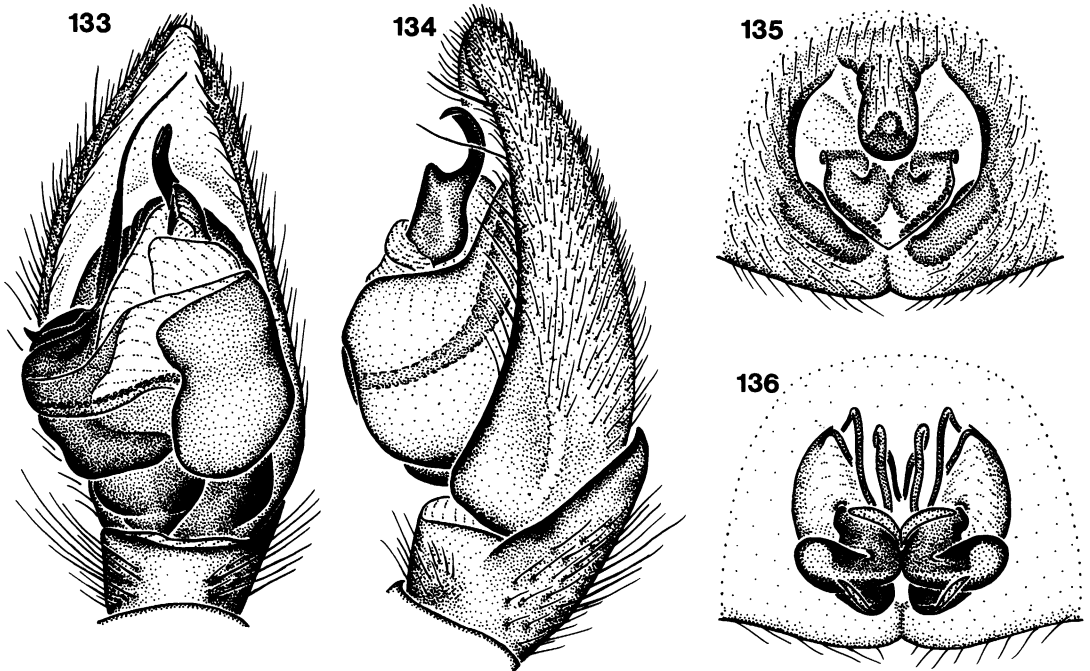
ALE 0.02, PME-PME 0.04, PME-PLE 0.18, ALE-PLE 0.21; MOQ length 0.32, front width 0.26, back width 0.30. Palp with long, curved embolus arising from wide base bearing sharp, small tubercle (figs. 127, 133); retrolateral tibial apophysis wide at tip (fig. 134). Leg spination: patella IV r0-1-0; tibiae: I v2-2-2; II v2-2-2; IV d0-0-0; metatarsus III r1-1-2.

FEMALE: Total length 8.20. Carapace 3.25 long, 2.50 wide. Femur II 1.80 long. Eye sizes and interdistances: AME 0.11, ALE 0.15, PME 0.13, PLE 0.13; AME-AME 0.07, AME-ALE 0.04, PME-PME 0.05, PME-PLE 0.18, ALE-PLE 0.45; MOQ length 0.39, front width 0.24, back width 0.30. Epigynal atrium with pair of long, internal margins (figs. 128, 135); spermathecae with wide, approximate median ducts (fig. 136). Leg spination: femur IV r1-0-0; tibiae: III r1-1-1; IV d0-0-0.

OTHER MATERIAL EXAMINED: USSR: **Azerbaijan:** Alty-agach, Apsheron area, May 19, 1979, elev. 1300 m (P. M. Dunin, ZIP), 1♂; Gasmalyan, Lerik area, Jan. 1, 1983 (P. M. Dunin, ZIP), 7♀; July 21–22, 1983, elev. 1350 m (V. I. Ovtsharenko, D. V. Logunov, ZIP), 7♀, June 28, 1985 (P. M. Dunin, ZIP), 1♀; 2



Map 13. Distribution of *Gnaphosa kompirensis* (●), *G. steppica* (■), and *G. belyaevi* (▲).



Figs. 133–136. *Gnaphosa steppica*, new species. 133. Left male palp, ventral view. 134. Same, retrolateral view. 135. Epigynum, ventral view. 136. Same, dorsal view.

km S Khanlar, Kirovobad area, May 8, 1986 (P. M. Dunin, ZIP), 3♂; Zuvand, Lerik area, Oct. 10–11, 1983, elev 1700–2000 m, under stone on slope (S. L. Golovach, ZIP), 1♀. **Kazakhstan:** *Kokchetav:* Kokshetau Mt., May 22–July 22, 1957 (V. P. Tyschchenko, ZIP), 3♂, 4♀. *Uralsk:* Dzhanibek, May 3–June 27, 1974–1975 (Y. I. Chernov, ZIP), 2♂, 4♀, May 28–Sept. 20, 1982 (K. G. Mikhailov, ZIP), 1♂, 11♀; 12 km NW Kharkin, Taipak area, June 6, 1977 (A. V. Ponomarev, ZIP), 1♀. **Russia:** *Kalmykiya:* Gograi reservoir, May–July, 1980 (N. O. Basangova, ZIP), 1♂, 1♀. *Krasnodar:* Gelendzhik, June 18–July 15, 1926 (S. A. Spassky, ZIP), 2♂, 4♀; Novorossiisk, Aug. 5, 1977 (V. I. Ovtsharenko, ZIP), 1♀, July 10, 1978 (V. I. Ovtsharenko, ZIP), 1♀. *North Osetiya:* nr. Unal and Zintsar, Alagir gorge, June 11–Sept. 7, 1985, elev. 1000–1200 m, pitfall traps (S. K. Alekseev, ZIP), 21♂, 12♀. *Rostov-na-Donu:* 4 km SE Fedoseevka, Zavetinsk area, June 11, 1973 (A. V. Ponomarev, ZIP), 1♀; Novochoerkassk (S. A. Spassky, ZIP), 1♀. *Samara:* Mt. Bashilova, Zhigulevskii Reservation, June 20, 1983 (Y. P. Krasnobaev, ZIP), 1♂. *Volgograd:* “Sar-

epa” [Krasnoarmeisk] (BMNH), 2♀ (paralectotypes, *G. rufula*). **TURKEY:** above Ardauç in northeastern Anatolia, July 10, 1977, elev. 1750 m, high steppe (Korge, CJW), 1♂, 1♀.

DISTRIBUTION: Steppe zone of Eurasia, including the Caucasus (map 13).

Gnaphosa belyaevi, new species

Figures 137, 138; Map 13

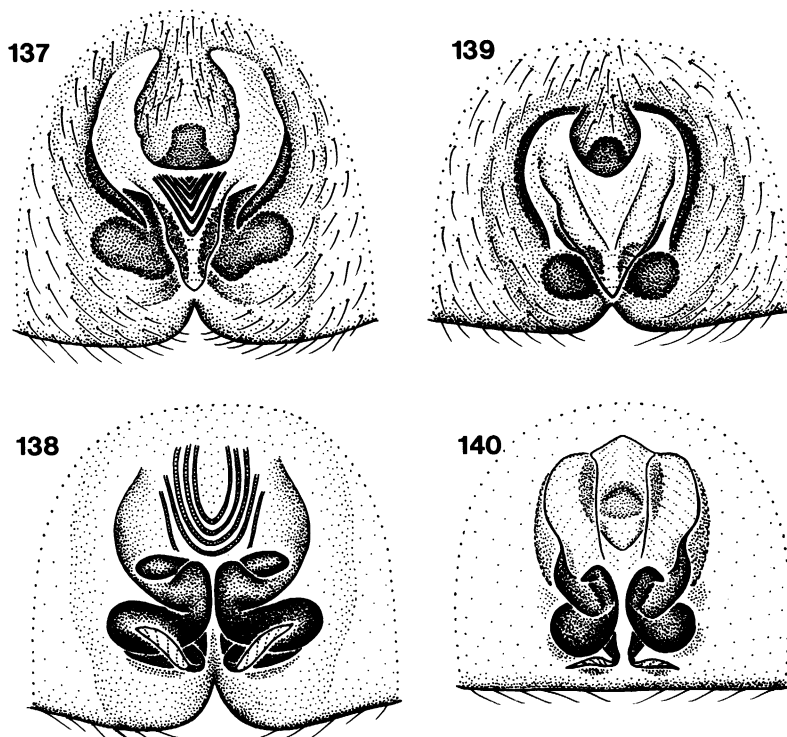
TYPE: Female holotype from 40 km SW Ekhiin-gol, Tsagaan-Bogdo Mt. range, Khongor, Mongolia (Aug. 8, 1981; V. Yanushev), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of Dr. A. V. Belyaev, who supported collecting of this spider genus in Mongolia.

DIAGNOSIS: Females can be distinguished by the rounded epigynal hood, indistinct anterolateral epigynal margins, and wide median epigynal ducts (figs. 137, 138).

MALE: Unknown.

FEMALE: Total length 12.30. Carapace 5.70 long, 4.40 wide. Femur II 4.10 long. Eye sizes



Figs. 137–140. 137, 138. *Gnaphosa belyaevi*, new species. 139, 140. *G. kurchak*, new species. 137, 139. Epigynum, ventral view. 138, 140. Epigynum, dorsal view.

and interdistances: AME 0.15, ALE 0.22, PME 0.20, PLE 0.21; AME-AME 0.18, AME-ALE 0.09, PME-PME 0.10, PME-PLE 0.39,

ALE-PLE 0.46; MOQ length 0.66, front width 0.47, back width 0.50. Epigynal atrium rounded with wide anterior hood occupying most of atrium (fig. 137); spermathecae with wide, curved median ducts (fig. 138). Leg spination: femora: I, II p1-1-0; III 0-0-1; patella IV 0-1-0; tibiae: I v0-1-1; II v0-1-2; metatarsi I, II v2-1-0.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in Khongor aimak, Mongolia (map 13).

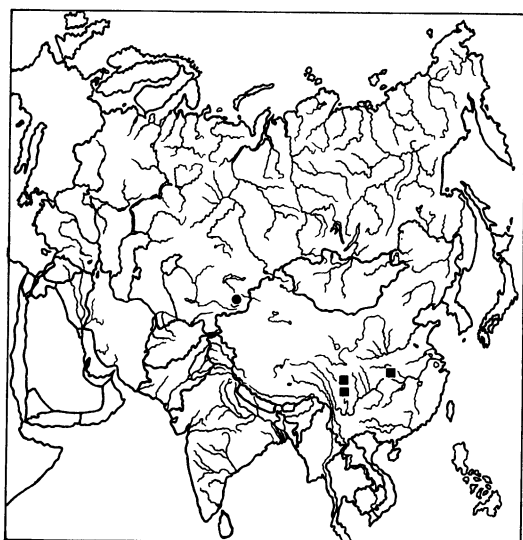
***Gnaphosa kurchak*, new species**

Figures 139, 140; Map 14

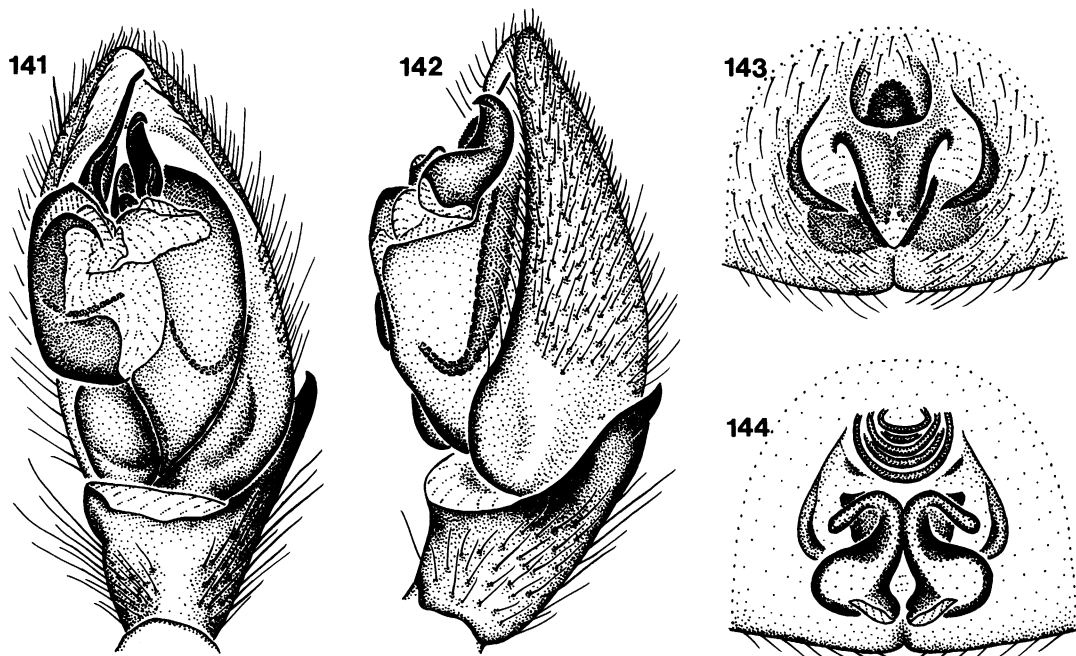
TYPE: Female holotype from Chon-Kurchak, Kirghiz Mt. range, Issyk-Kul, Kirghizia, USSR (July 2, 1986; S. V. Ovchinnikov), deposited in ZIP.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can be distinguished by the wide epigynal midpiece and short, narrow median epigynal ducts (figs. 139, 140).



Map 14. Distribution of *Gnaphosa kurchak* (●) and *G. zhaoi* (■).



Figs. 141–144. *Gnaphosa zhaoi*, new species. 141. Left male palp, ventral view. 142. Same, retrolateral view. 143. Epigynum, ventral view. 144. Same, dorsal view.

MALE: Unknown.

FEMALE: Total length 9.20. Carapace 3.50 long, 2.50 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.11, ALE 0.16, PME 0.12, PLE 0.14; AME-AME 0.09, AME-ALE 0.02, PME-PME 0.04, PME-PLE 0.21, ALE-PLE 0.23; MOQ length 0.38, front width 0.29, back width 0.32. Epigynal atrium longitudinal, with wide midpiece (fig. 139); spermathecae with short, narrow, widely separated median ducts (fig. 140). Leg spination: femur IV p0-0-1, r0-0-1; tibiae: I v0-0-0; III r1-1-1; IV d0-0-0, p1-0-1, r1-0-0; metatarsus III v2-2-2.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in Kirghizia, USSR (map 14).

***Gnaphosa zhaoi*, new species**

Figures 66, 141–144; Map 14

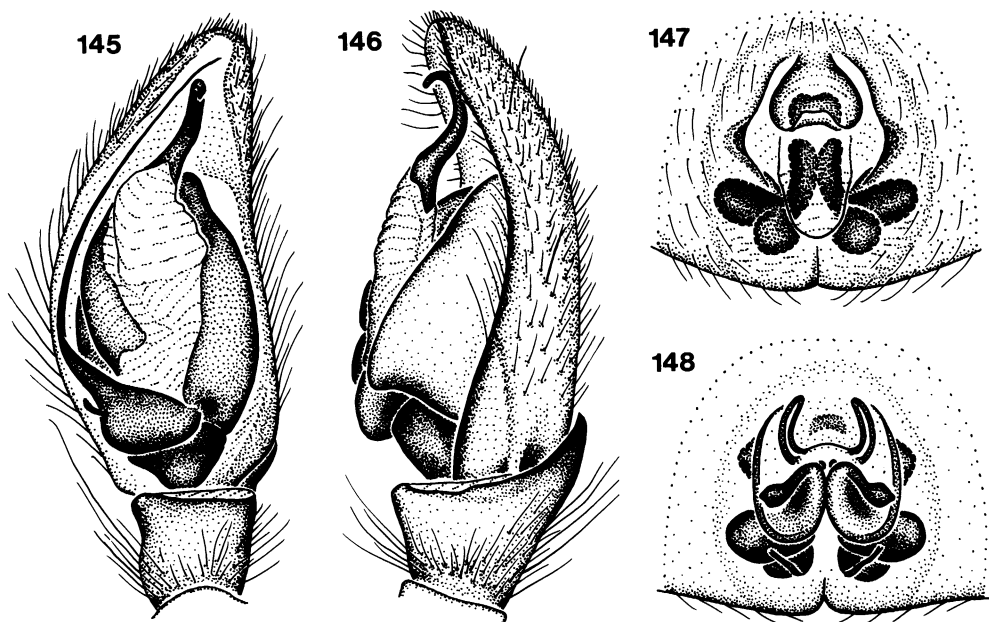
TYPES: Male holotype and female allotype from Yingshan, Hubei, China (July 1–3, 1984; J. Z. Zhao), deposited in IZB.

ETYMOLOGY: The specific name is a patronym in honor of Prof. J. Z. Zhao, collector of the types and Director of Hubei University.

DIAGNOSIS: Males can be distinguished by the short, wide, and sinuous embolus (figs. 141, 142), females by the posteriorly widened epigynal atrium, wide epigynal midpiece, and narrow, arched median epigynal ducts (figs. 66, 143, 144).

MALE: Total length 6.60. Carapace 3.40 long, 2.70 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.10, ALE 0.15, PME 0.12, PLE 0.13; AME-AME 0.09, AME-ALE 0.02, PME-PME 0.04, PME-PLE 0.17, ALE-PLE 0.15; MOQ length 0.31, front width 0.27, back width 0.22. Palp with short, sinuous embolus arising from wide base (fig. 141); retrolateral tibial apophysis with slightly curved tip (fig. 142). Leg spination: femora I, II p0-1-1; patella IV r0-1-0; tibiae I, II p1-0-1, v0-2-2; metatarsus III r1-1-2.

FEMALE: Total length 8.30. Carapace 3.60 long, 2.80 wide. Femur II 2.20 long. Eye sizes and interdistances: AME 0.12, ALE 0.19, PME 0.15, PLE 0.15; AME-AME 0.13, AME-ALE 0.03, PME-PME 0.04, PME-PLE 0.21, ALE-PLE 0.25; MOQ length 0.43, front width 0.37, back width 0.40. Epigynal atrium widened, elevated posterolaterally, with wide midpiece (figs. 66, 143); spermathecae with



Figs. 145–148. *Gnaphosa muscorum* (L. Koch). 145. Left male palp, ventral view. 146. Same, retro-lateral view. 147. Epigynum, ventral view. 148. Same, dorsal view.

narrow, curved ducts (fig. 144). Leg spination: femur IV p0-0-1; tibiae: I v0-1-2; II p0-0-1, v0-1-2; IV d0-0-0; metatarsi: II r0-1-0; III r1-1-2.

OTHER MATERIAL EXAMINED: CHINA: **Hubei:** Yingshan, July 1–3, 1984 (J. Z. Zhao, IZB), 1♂. **Sichuan:** Luding, Sept. 16, 1982 (IZB), 1♀; Tatsienlu [= K'angting], July 20, 1923, elev. 1200 ft (D. C. Graham, USNM), 3♀. Province ? : Nem u Ya Pass, July 1937, elev. 7000–10000 ft (USNM), 1♀.

DISTRIBUTION: Central and southern China (map 14).

THE MUSCORUM GROUP

Males of this group have a long, narrow embolus occupying most of the prolateral side of the palpal bulb; females have greatly elaborated median epigynal ducts. The group is represented in the New World by the Holarctic species *G. muscorum*.

Gnaphosa muscorum (L. Koch)

Figures 145–150; Map 15

Pythonissa muscorum L. Koch, 1866: 14, pl. 1, figs 9, 10 (female holotype from Engadin, Swit-

zerland, in BMNH, examined by Platnick and Shadab, 1975).

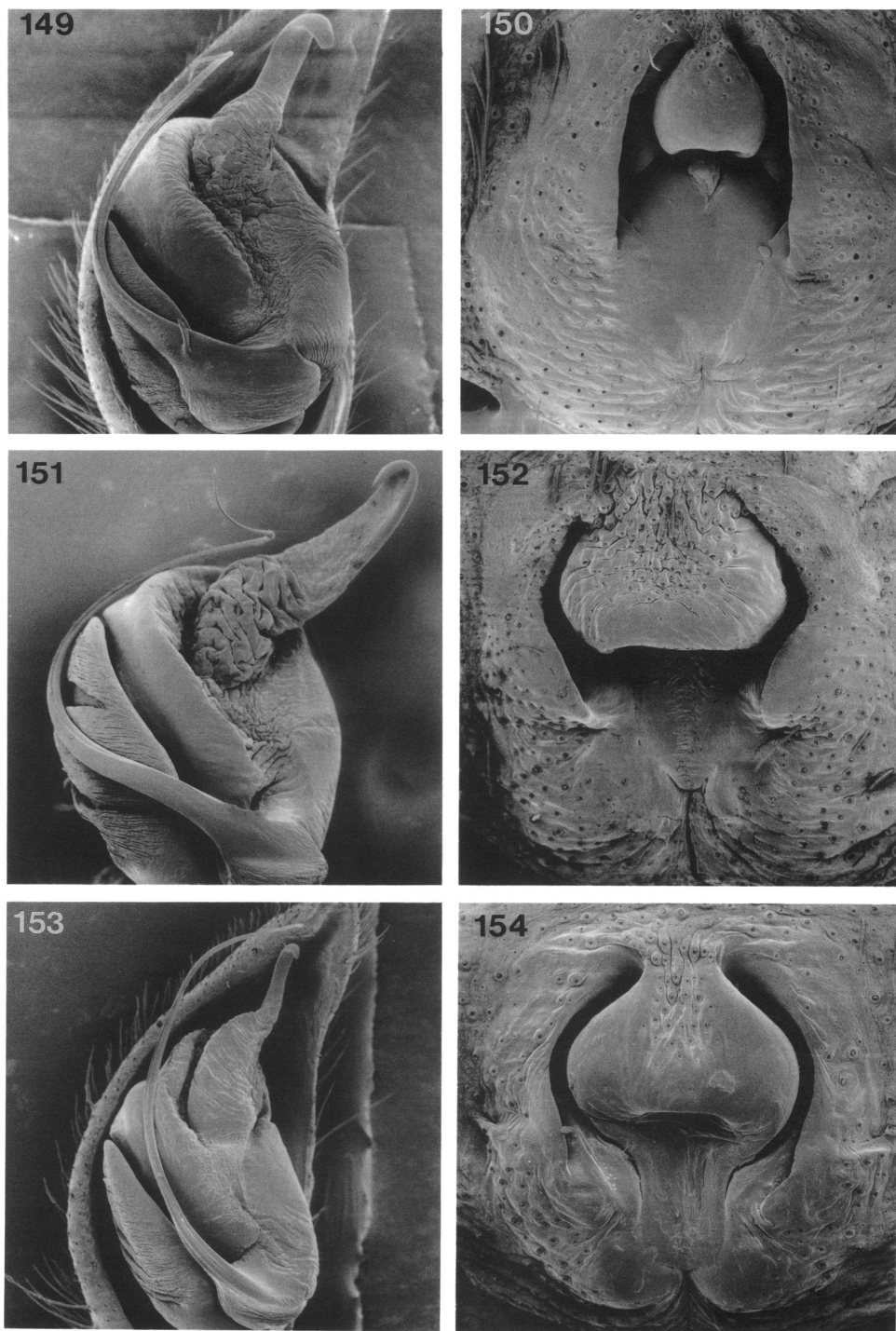
Gnaphosa muscorum: Thorell, 1871: 190. – Platnick and Shadab, 1975: 34, figs. 79–84. – Grimm, 1985: 74, figs. 42, 54, 55, 76. – Wesołowska, 1988: 411, figs. 24–28. – Hu and Wu, 1989: 271, figs. 216.3, 4. – Heimer and Nentwig, 1991: 422, figs. 1112.1–4.

Gnaphosa similis Kulczyński, 1926: 42, fig. 6 (female holotype from Klutschevskoje, Kamchatka, Russia, USSR, in PAN, examined). NEW SYNONYMY.

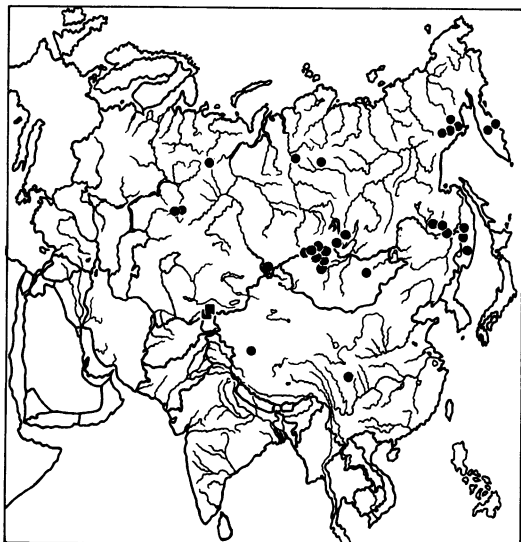
Gnaphosa lesserti Schenkel, 1963: 80, fig. 45 (female holotype, missing epigynum, from “Nordfuss des Nan schan,” Inner Mongolia, China, in MNHN, examined). NEW SYNONYMY.

Gnaphosa mongolica: Saveljeva, 1972: 1238, figs. 1, 2 (misidentification).

NOTE: Only Asian synonyms of this abundant, Holarctic species are listed here; see Platnick and Shadab (1975) and Grimm (1985) for American and European synonyms. Ovtsharenko and Marusik (1988: 207) listed *Drassina ochracea* Grube (1861) as an unused senior synonym of *G. muscorum*, but (as shown by Wesołowska, 1988: 405) the holotype of *D. ochracea* actually belongs to the common agelenid *Tegenaria domestica*



Figs. 149–154. 149, 150. *Gnaphosa muscorum* (L. Koch). 151, 152. *G. mandschurica* Schenkel. 153, 154. *G. mongolica* Simon. 149, 151, 153. Male palp, ventral view. 152, 154, 156. Epigynum, ventral view.



Map 15. Distribution of *Gnaphosa muscorum* (●) and *G. zonsteini* (■).

(Clerck). Wesołowska (1988: 411), on the basis of a male syntype, instead placed *Drassus adpersus* Grube (1861) as an unused senior synonym of *G. muscorum*. Other syntypes of *D. adpersus* do not belong to *G. muscorum*, however, and a lectotype, belonging to *G. kompirensis*, is designated above.

DIAGNOSIS: Males can be recognized by the long embolus bearing a basal spur (figs. 145, 146, 149; the spur is sometimes broken, possibly in mated males; see Platnick and Shadab, 1975: fig. 83), females by the wide epigynal hood and closely spaced epigynal ducts (figs. 147, 148, 150).

MALE: Described by Platnick and Shadab (1975).

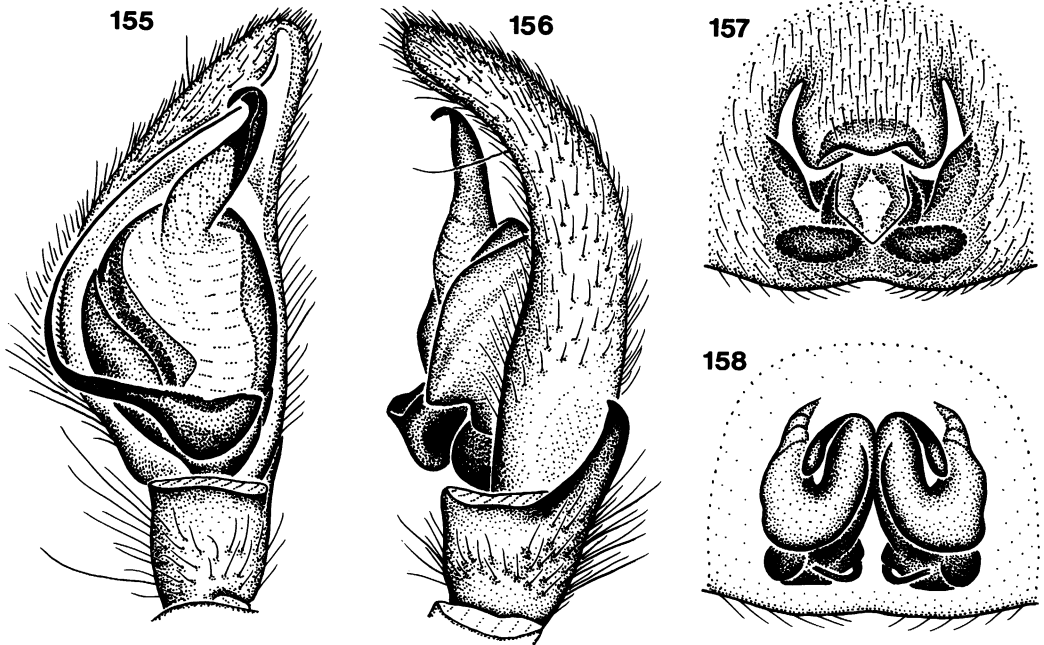
FEMALE: Described by Platnick and Shadab (1975).

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Vostochno-Kazakhstanskaya:* Karaungur River, nr. Kenderlyk River, Saur Mt. range, June 18–22, 1990 (K. Y. Eskov, ZIP), 2♂, 4♀; Saur Mt. range, 20 km W Zaisan, E Chur-chutsu, June 21, 1989, forest, alpine zone (I. Kabak, ZIP), 1♀. **Russia:** *Amurskaya:* Chaug-da, Novoburiisk area, July–Aug. 1973 (D. Zaloznykh, ZIP), 1♀. *Bashkiriya:* Bashkirskii Reservation, May–July 1976 (T. N. Grigoreva, ZIP), 1♀, May 27, 1986, pine-birch forest (V. E. Efimik, ZIP), 1♀. *Evreiskaya:* Pash-

kovo, June 8, 1978 (S. Toms, ZIP), 2♀. *Irkutsk:* Angara River, nr. Irkutsk, 1867 (A. Czeka-nowski, ZIP), 1♂; Maritui and Khabartui, June 9, 1908 (I. D. Kuznetsov, ZIP), 1♀. *Kamchatka:* nr. Esso, Aug. 9–24, 1989 (T. V. Pavlenko, ZIP), 2♀; Klutschevskoje, May 23, 1909 (PAN), 1♀. *Khabarovsk:* S Redina, Sikhote-Alin, July 7–9, 1980, elev. 800 m (G. A. Belova, ZIP), 5♂, 7♀, July 13–15, 1980 (G. A. Belova, ZIP), 5♂, 6♀; Zeiskii Reservation, July 22, 1978 (V. Belov, ZIP), 1♀. *Komi:* Pechoro-Ilycheskii Reservation, June 10, 1970 (N. M. Pachorukov, ZIP), 1♂, 2♀. *Krasnoyarsk:* Baisa, Vitim River, Taimyr, July 4, 1969 (Shnitnikov, ZIP), 1♀; 40 km up mouth Kochechum River, Nizhnyaya Tunguska River, July 20–Aug. 10, 1978 (A. Vakhrushev, ZIP), 1♀; Turukhansk, Nizhnyaya Tunguska River, June 5, 1982 (A. Vakhrushev, ZIP), 1♀. *Magadan:* Aborigin research station, Cibit-Tyellach, Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 1300♂♀; Dukcha River, 29 km N Magadana, June 28, 1986, elev. 700–800 m (Y. M. Marusik, CYM), 3♀; Kulu River, Upper Kolima River, Aug. 11, 1986, elev. 900 m (Y. M. Marusik, CYM), 2♀; 55 km N Ust-Omchuga or 10 km SW Vetrennyi, Aug. 1984 (K. Y. Eskov, ZIP), 3♀. *Primorskii:* Shandut, Aug. 12, 1978 (D. Shcherbakov, ZIP), 3♀. *Tuva:* Azas Reservation, June 19–23, 1989, moss of birch forest (D. V. Logunov, ZIP), 6♂; Chachytai Lake, June 28, 1989, steppe, under stones (D. V. Logunov, ZIP), 2♀; Kyzyl, July 20, 1973 (M. T. Shternbergs, ZIP), 1♀; Toora-Khem, Todzhinsk area, June 18–23, 1989, elev. 900 m, forest (D. V. Logunov, ZIP, AMNH), 4♂, 2♀. **MONGOLIA:** **Dzabkhan:** Mt. Suvracha, Tosenuengel, Nov. 1, 1978, under bark of tree (D. Tegshzhargal, ZIP), 1♀. **Khentei:** 80 km E Under Khan, Edeni-Han hegycsop, May 13–June 16, 1979 (Z. Perregi, HMNH), 5♂. **Khubsugul:** Khubsugul Lake, Ongolich-Gol River, Aug. 3, 1977 (V. Shilenkov, ZIP), 3♂; Zhargalant, Tarbagatai Mt. range, July 1–Aug. 13, 1985, alpine meadow (B. Shekhtel, ZIP), 2♂. **CHINA:** **Sichuan:** Xiangcheng, July 4, 1982 (Z. Y. Li, IZB), 1♀. **Xizang:** Markam, Aug. 10, 1982 (Z. Y. Li, IZB), 1♀.

DISTRIBUTION: Holarctic (see map 15 for north Asian records).

SYNONYMY: Kulczyński (1926: 44) pointed



Figs. 155–158. *Gnaphosa mandschurica* Schenkel. 155. Left male palp, ventral view. 156. Same, retrolateral view. 157. Epigynum, ventral view. 158. Same, dorsal view.

out the similarities between *G. muscorum* and the holotype (and only known specimen) of *G. similis*; the slight differences in epigynal proportions and ocular measurements are well within the range of individual variation of *G. muscorum*, and the internal female genitalia (not examined by Kulczyński) show no significant differences from those of typical *G. muscorum*. The epigynum of the female holotype of *G. lesserti* is missing; comparisons of the somatic features (and Schenkel's epigynal sketch) with the species known from the area around the type locality indicate that the specimen is most likely to belong to *G. muscorum*.

Gnaphosa mandschurica Schenkel
Figures 151, 152, 155–158; Map 16

Gnaphosa mandschurica Schenkel, 1963: 71, fig. 38 (female holotype collected by G. N. Potanin, in 1896, from somewhere between "Urga" [Ulan Bator, Central, Mongolia] and "Tsitsikhar" [Tsitsihar, Heilongjiang, China], in MNHN, examined).

Gnaphosa glandifera Schenkel, 1963: 72, fig. 39 (female holotype, lacking epigynum, from "Tal

des Flusses Lantscha lunwa," Gansu, China, in MNHN, examined). NEW SYNONYMY.

Gnaphosa holmi Schenkel, 1963: 73, fig. 40 (two female syntypes from one or more of three lo-



Map 16. Distribution of *Gnaphosa mandschurica* (●), *G. sticta* (■), and *G. eskovi* (▲).

calities in Gansu, China, in MNHN, examined; specific name preoccupied). NEW SYNONYMY.

Gnaphosa charitonowi Schenkel, 1963: 75, fig. 41 (female holotype from "Tal des Flusses Ndami," Gansu, China, in MNHN, examined). – Song et al., 1981: 88, fig. 18. – Hu, 1984: 278, fig. 292.2. – Song, 1987: 338, fig. 292. NEW SYNONYMY.

Gnaphosa braendegaardi Schenkel, 1963: 76, figs. 42a–c (male holotype from "Tal des Flusses Bardun," Gansu, China, should be in MNHN, lost). NEW SYNONYMY.

Gnaphosa berlandi Schenkel, 1963: 83, fig. 47 (female holotype from "Kloster Kadiger," Gansu, China, in MNHN, examined). NEW SYNONYMY.

DIAGNOSIS: Males can be recognized by the long embolus lacking a basal spur and the long, narrow median apophysis (figs. 151, 155, 156), females by the wide epigynal hood and deeply invaginated midpiece (figs. 152, 157, 158).

MALE: Described by Schenkel (1963).

FEMALE: Described by Schenkel (1963).

MATERIAL EXAMINED: USSR: **Russia:** *Tuva:* Ust-Uyuk, Uyukskii Mt. range, May 21, 1989, elev. 800–900 m (D. V. Logunov, ZIP), 3♀. **MONGOLIA:** **Selenga:** Shamor, July 3–29, 1980, pitfall traps (K. Ulykpan, ZIP, AMNH), 6♂, 3♀. **Sukh-Batar:** Mt. Shiliin-Bogd-Ula, Darganga, July 21–22, 1985, under stones (V. I. Ovtsharenko, ZIP), 3♀; Tumentsogt, July 10–21, 1983–1985, pitfall traps (K. Ulykpan, ZIP), 3♀, Aug. 12, 1985 (V. I. Ovtsharenko, ZIP), 1♀. **CHINA:** **Gansu:** "Kloster Kadiger," May 26, 1895 (G. N. Potanin, MNHN), 1♀ (holotype); "Tal des Flusses Ndami," May 21, 1895 (G. N. Potanin, MNHN), 1♀ (holotype). **Inner Mongolia:** Hohhot, May 23, 1958 (IZB), 1♀. **Sichuan:** Litang, June 4, 1982, elev. 2700 m (IZB), 1♀. **Xizang:** Zogang, June 1976, elev. 3800 m (IZB), 1♀. **NEPAL:** **Thak-khola:** gorge between Annapurna and Dhaulagiri, Jomosom, early Mar. 1974, elev. 2800 m, pebbles on river bank (J. Martens, NMS), 2♂, 2♀; Old Marpha, Mar. 13–20, 1974, elev. 3100–3400 m, dry conifer forest (J. Martens, NMS), 1♀; ascent to Thaksang, July 1, 1973, elev. 2600–2900 m, mixed dense conifer forest (J. Martens, NMS), 1♀; Thini, nr. Jomosom, Mar. 22, 1974, elev. 2800 m, dry landscape (J. Martens, NMS), 1♀.

DISTRIBUTION: Russia, Mongolia, China, and Nepal (map 16).

SYNONYMY: No diagnostic information was provided by Schenkel (1963) for any of the synonyms, and there appears to be none.

Gnaphosa mongolica Simon

Figures 153, 154, 159–162; Map 17

Gnaphosa mongolica Simon, 1895: 334 (female syntype from one of three localities in Mongolia, should be in MNHN, apparently lost; male, possibly a syntype, from unspecified locality in Mongolia, in MNHN, examined).

Gnaphosa spinosa Kulczyński, in Chyzer and Kulczyński, 1897: 187, pl. 7, fig. 16 (male lectotype, here designated, from Budapest, Hungary, in PAN, examined). – Loksa, 1965: 23, figs. 34, 35. – Weiss and Marcu, 1988: 113, figs. 1–4. NEW SYNONYMY.

Gnaphosa punctata Kulczyński, 1901: 323, pl. 12, fig. 1 (female lectotype, here designated, from "Urga," [= Ulan Bator], Central, Mongolia, in PAN, examined). First synonymized with *G. spinosa* by Loksa, 1965: 23.

Gnaphosa auriceps Schenkel, 1953: 19, figs. 10a–c (male and female syntypes from "Oestliche Mongolei," Mongolia, supposedly deposited in Museum Hoangho-Peiho, Tientsin, presumed destroyed). NEW SYNONYMY.

Gnaphosa chaffanjonii Schenkel, 1963: 69, figs. 37a–c (male holotype collected by G. N. Potanin, in 1896, from somewhere between "Urga" [Ulan Bator, Central, Mongolia] and "Tsitsikhar" [Tsitsihar, Heilongjiang, China], in MNHN, examined). – Ponomarev, 1981: 56, fig. 2. NEW SYNONYMY.

Gnaphosa corifera Schenkel, 1963: 77, fig. 43 (female holotype collected by G. N. Potanin, in 1896, from somewhere between "Urga" [Ulan Bator, Central, Mongolia] and "Tsitsikhar" [Tsitsihar, Heilongjiang, China], in MNHN, examined). NEW SYNONYMY.

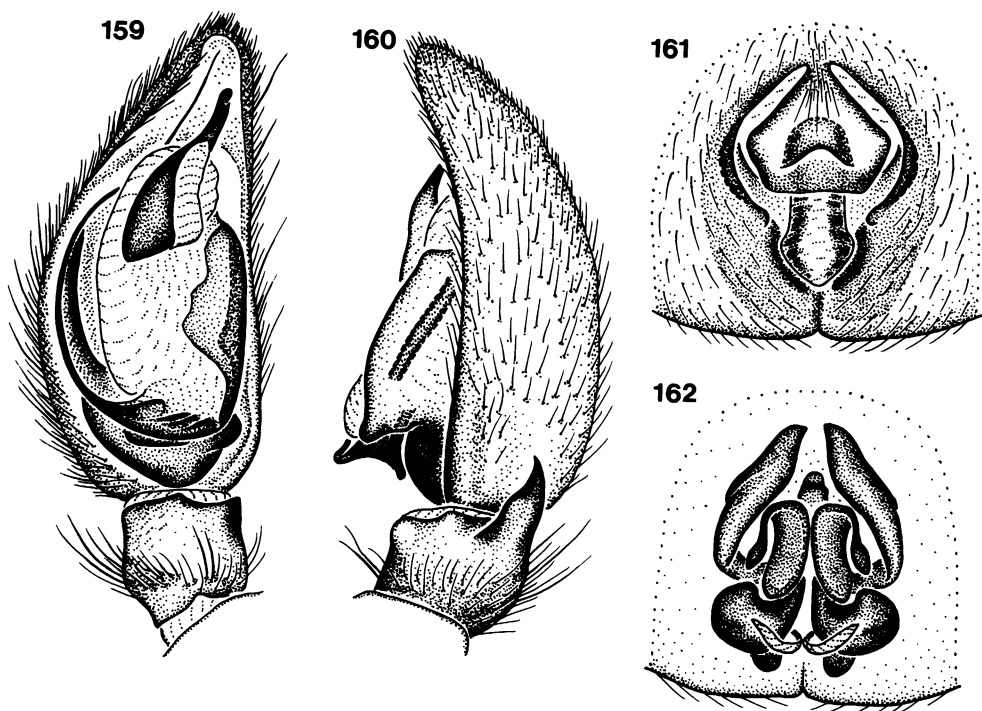
Gnaphosa denisi: Hu and Wu, 1989: 266, figs. 216.1, 2 (misidentification).

DIAGNOSIS: Males can be recognized by the long embolus without a basal, erectile spur and the narrowed apical portion of the curved median apophysis (figs. 153, 159, 160), females by the large, diamond-shaped epigynal hood and anteriorly extended epigynal ducts (figs. 154, 161, 162).

MALE: Described by Weiss and Marcu (1988).

FEMALE: Described by Weiss and Marcu (1988).

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Aktyubinsk:* Baiganin, N Ustyurt, July, 1989 (A. A. Zyuzin, L. V. Pavlova, ZIP), 2♀. *Alma-*



Figs. 159–162. *Gnaphosa mongolica* Simon. 159. Left male palp, ventral view. 160. Same, retrolateral view. 161. Epigynum, ventral view. 162. Same, dorsal view.

Ata: Alma-Ata, June 14–July 13, 1979 (A. Slivkin, ZIP), 6♂, 1♀. *Dzhambul*: Mt. Khantau, 6 km SE Khantau, Moinkum desert, July 9–11, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 1♂. *Kustanai*: Naurzumskii Reservation, May 15–June 12, 1981 (T. Bragina, ZIP), 2♂, 3♀. *Kzyl-Orda*: 20 km S Sapak, Aralsk area, July 21, 1989, sandy-loamy desert (A. A. Zyuzin, ZIP), 1♂. *Kirghizia*: *Issyuk-Kul*: Cholpon-Ata, Aug. 9, 1977, steppe, under stones (S. L. Zonstein, ZIP), 3♀, July 28, 1987, elev. 1600 m (V. I. Ovtsharenko, ZIP), 1♀, July 30, 1987, semidesert (V. I. Ovtsharenko, ZIP), 1♀, Aug. 8, 1987, elev. 1100 m (V. I. Ovtsharenko, ZIP), 4♀; near Kurskoe, N Issyuk-Kul Lake, Aug. 10, 1980 (S. L. Zonstein, ZIP), 1♀; Toru-Aigyr, Kungei Alatau Mt. range, July 23, 1978 (Kuznetsov, ZIP), 1♂. *Russia*: *Buryatiya*: Gusinoe Ozero, July 8, 1981 (S. N. Danilov, ZIP), 1♀. *Primorskii*: middle part Kadrovka River, Aug. 1, 1968, under stones (F. Z. Popov, ZIP), 2♀; near Kangauz, Kangauz River, July 5, 1968, under stones (F. Z. Popov, ZIP), 1♀. *Tuva*: Karga River, 25–30 km SE Mugun-Aksy, June 15, 1989, elev. 1600–1700 m (D. V. Logunov,

ZIP), 1♂, 1♀; 2–3 km N Kyzyl, May 20, 1989, elev. 400–600 m, steppe, under stones (D. V. Logunov, ZIP), 2♂, 2♀, June 9–20, 1989, elev.



Map 17. Distribution of *Gnaphosa mongolica* (●) and *G. borea* (■).

700–800 m, under stones (D. V. Logunov, ZIP), 2♂; 3 km E Kyzyl, July 3, 1989, elev. 700–800 m, under stones (D. V. Logunov, ZIP), 2♂; Ongalaan, 20–25 km W Erzin, May 27–30, 1989 (D. V. Logunov, ZIP), 2♀; Yaamalyg Mt. range, 30 km W Erzin, June 9–10, 1989, elev. 1200–1300 m (D. V. Logunov, ZIP), 2♀. **Ukraine:** Kherson: Chernomorskii Reservation, May 20–25, 1985 (Zelinskaya, ZIP), 2♂, 1♀; Kherson, May 6, 1939 (V. F. Nikolaev, ZIP), 1♀. **MONGOLIA:** **Central:** "Urga," Ulan-Bator (PAN), 1♀ (lectotype). **Eastern:** Numrengol River, Aug. 7, 1985 (V. I. Ovtsharenko, Oyunzhargal, ZIP), 1♀. **Khentei:** 80 km E Under Khan, Morones, Dry-ra, Granit Mt., May 30, 1979 (Z. Perregi, HMNH), 7♂, 3♀. **Sukh-Batar:** 35 km SE Asgat, July 22, 1985 (V. I. Ovtsharenko, Oyunzhargal, ZIP), 1♀; Mt. Bayuan-Obo, July 19–20, 1985, elev. 600 m (V. I. Ovtsharenko, C. Chimgé, Oyunzhargal, ZIP), 2♀; Dzhigang, July 20, 1985 (V. I. Ovtsharenko, ZIP), 1♀; Goshlog Lake, July 31, 1985 (C. Chimgé, ZIP), 1♀; Numrengol River, July 7, 1985 (V. I. Ovtsharenko, ZIP), 1♀; Tumentsogt, July 18, 1983 (ZIP), 1♀, July 8, 1985, steppe, pasture, under stones (V. I. Ovtsharenko, ZIP), 10♀. **Ubsa Nor:** N Ubsa Nor, summer 1976 (Volokhovitch, ZIP), 1♀. **CHINA:** **Xinjiang:** Barkol, Sept. 7, 1976 (IZB), 1♀. **Xizang:** Yazu, July 10, 1980 (IZB), 1♀.

DISTRIBUTION: Steppe zone of Eurasia, from Hungary to China (map 17).

SYNONYMY: Simon (1895) described only the female of *G. mongolica* but listed material from three localities. There is a vial bearing this name in MNHN, numbered as AR 1585, that apparently represents Simon's original material, as *G. potanini*, described on the same page in Simon (1895), occupies vial AR 1584. Vial AR 1585 contains only a single male, from an unidentified locality in Mongolia. That male may or may not have been among the specimens originally examined by Simon, but it represents the only existing specimen thought by Simon to belong to *G. mongolica*. As that male clearly belongs to this species, which is common and widespread in Mongolia, we have chosen to use Simon's name even though the younger name *G. spinosa* has been used in two more recent studies (Loksa, 1965; Weiss and Marcu, 1988). No diagnostic information was pro-

vided by Schenkel (1953, 1963) for any of the later synonyms, and there appears to be none.

Gnaphosa sticta Kulczyński

Figures 163–168; Map 16

Gnaphosa sticta Kulczyński, 1908: 7, fig. 4 (female holotype from "Vallis fluminis Jana," Yakutiya, Russia, USSR, in ZIP, examined). – Ovtsharenko and Marusik, 1988: 208, figs. 16, 17, 20. *Gnaphosa intermedia* Holm, 1939: 11, fig. 5 (female syntype from Harrå, Gällivare, Lappland, Sweden, in Uppsala Universitet, examined by Ovtsharenko and Marusik, 1988). First synonymized by Ovtsharenko and Marusik, 1988: 209.

Gnaphosa microps: Holm, 1950: 136, figs. 8a–b (misidentification).

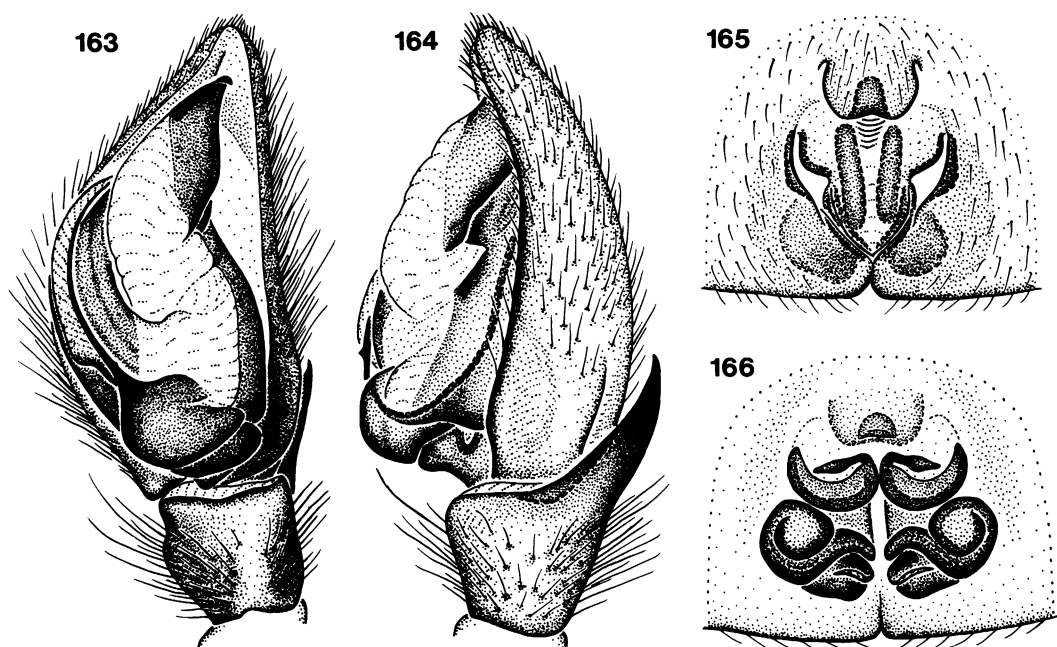
DIAGNOSIS: Males can be recognized by the long, narrow embolus and very wide median apophysis (figs. 163, 164, 167), females by the anteriorly expanded epigynal midpiece, and semicircular anterior ducts (figs. 165, 166, 168).

MALE: Described by Ovtsharenko and Marusik (1988).

FEMALE: Described by Kulczyński (1908).

MATERIAL EXAMINED: USSR: **Russia:** *Chita:* Ust-Chernaya, Shilka River, Sretensk, Aug. 16, 1984 (N. A. Formozov, ZIP), 2♀. *Khabarovsk:* Bomboli River, Mt. Tardoki-Ani, Sikhote-Alin, June 18–23, 1980, elev. 1350–1800 m (A. V. Plutenko, ZIP), 2♂, 2♀; Dichun, Evreiskaya area, Aug. 22, 1978 (V. Belov, ZIP), 1♀. *Krasnoyarsk:* mouth Nepene River, Taimura River, Evenkia area, July 29–Aug. 8, 1982–1983, taiga forest (K. Y. Eskov, ZIP), 4♀; Oiskoe Lake, July 1985, elev. 1000 m (A. V. Nikolaev, ZIP), 1♀; Oiskii Mt. pass, 35–40 km SW Oiskoe Lake, July 10–11, 1990 (N. A. Gladkevich, D. V. Logunov, ZIP), 4♀. *Magadan:* Aborigin research station, Kulu River, upper part of Kolima River, Cibit-Tyellach, Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 200♂♀. *Yakutiya:* Moero River, tributary Kotui River, 66°20'16"N, May 1874 (Chekanovskii, ZIP), 2♂, 2♀; "Vallis fluminis Jana," Aug. 3–14, 1885 (ZIP), 1♀ (holotype).

DISTRIBUTION: Northern Palearctic region (see map 16 for north Asian records).



Figs. 163–166. *Gnaphosa sticta* Kulczyński. 163. Left male palp, ventral view. 164. Same, retrolateral view. 165. Epigynum, ventral view. 166. Same, dorsal view.

Gnaphosa gracilior Kulczyński

Figures 169, 170, 173–176; Map 18

Gnaphosa gracilior Kulczyński, 1901: 325, pl. 12, fig. 2 (female holotype from “Urga,” [= Ulan Bator], Central, Mongolia, in PAN, examined).

Gnaphosa proxima Kulczyński, 1908: 9, fig. 5 (female holotype from “Vallis fl. Jana, inter ostium fl. Adytscha et Tschogur,” Yakutsk, Russia, USSR, in ZIP, examined). – Ovtsharenko and Marusik, 1988: 208, fig. 15. NEW SYNONYMY.

Gnaphosa pseudomongolica Schenkel, 1963: 79, fig. 44 (female holotype collected by du Chazaud on Aug. 2, 1909, from somewhere between “Urga” [Ulan Bator, Central, Mongolia] and Uliassutai, Dzabkhan, Mongolia, in MNHN, examined). NEW SYNONYMY.

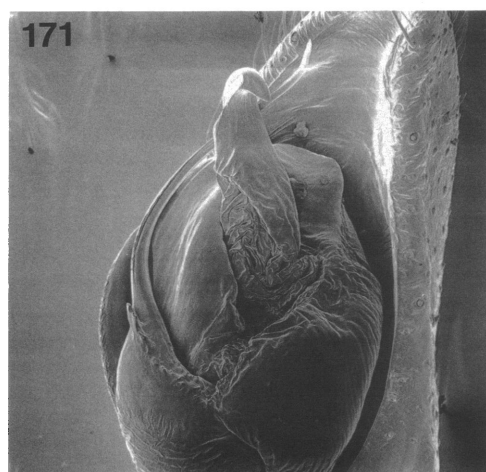
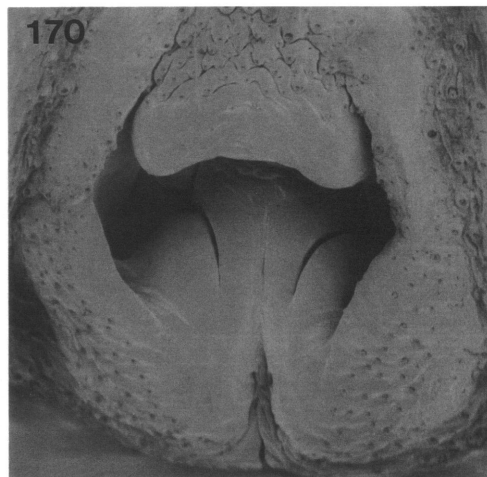
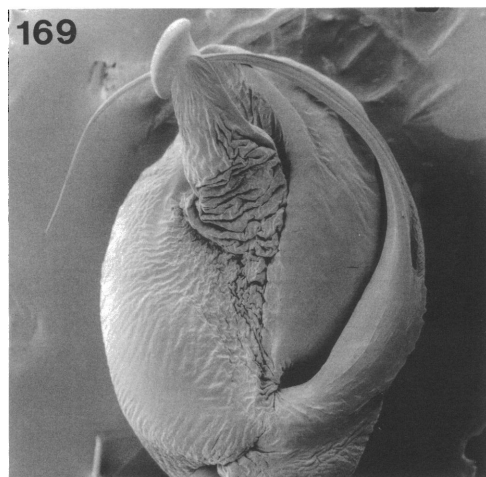
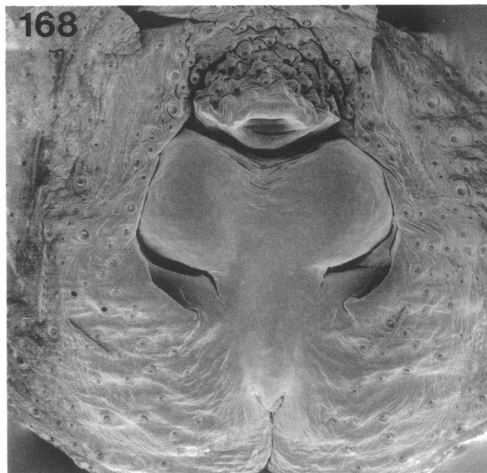
Gnaphosa tarimuensis Hu, 1989: 98, figs. 1, 2 (female holotype from Qiemo County, Xinjiang, China, in Shandong University collection, not examined). – Hu and Wu, 1989: 272, figs. 221.1, 2. NEW SYNONYMY.

DIAGNOSIS: Males can be recognized by the long embolus bearing a serrated plate at about half its length (figs. 169, 173), females by the short epigynal hood, the deep, anteriorly widened epigynal atrium, and the widely spaced, wide epigynal ducts (figs. 170, 175, 176).

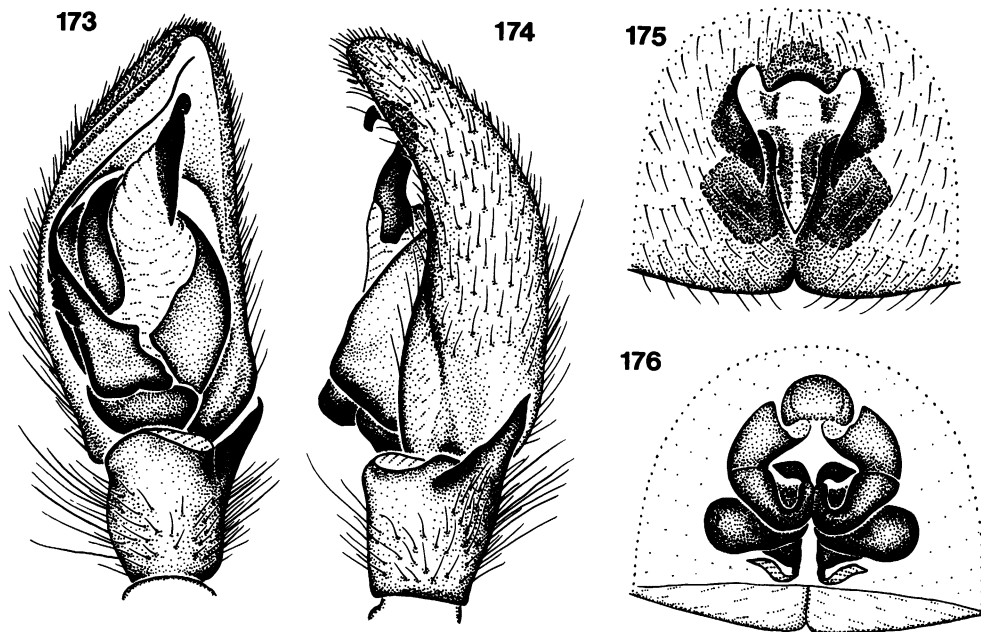
MALE: Total length 10.40. Carapace 4.90 long, 3.14 wide. Femur II 3.60 long. Eye sizes and interdistances: AME 0.15, ALE 0.18, PME 0.18, PLE 0.15; AME-AME 0.13, AME-ALE 0.04, PME-PME 0.06, PME-PLE 0.24, ALE-PLE 0.15; MOQ length 0.47, front width 0.38, back width 0.40. Leg spination: femora I, II p0-1-1; patellae: III p0-1-0; IV r0-1-0; tibiae I, II v2-2-2, p0-1-1, r1-0-0; metatarsi: III v2-2-2, r2-1-2; IV p2-2-2, r2-2-1. Embolus long, with serrated plate at about half its length, apical portion of median apophysis hooked (figs. 169, 173); retrolateral tibial apophysis relatively long, narrowed (fig. 174).

FEMALE: Described by Hu (1989).

MATERIAL EXAMINED: USSR: **Russia:** *Altai:* upper part Tozhongty River, W Sailuugema Mt. range, Gorno-Altai area, June 14, 1879 (G. N. Potanin, ZIP), 2♀. *Khabarovsk:* Vyatskoe, July 1976 (T. Moskvichova, ZIP), 1♀. *Krasnoyarsk:* Nizhnyaya Tunguska River, between mouth Velma River and mouth Baikit River, June 1928 (ZIP), 13♀. *Magadan:* Aborigin research station, Cibit-Tyelach, Tenkinsk area, Sept. 1985 (Y. M. Marusik, ZIP), 2♀; Vakshanka River, drainage basin Detrin River, 56 km N Uct-Omchuga,



Figs. 167–172. 167, 168. *Gnaphosa sticta* Kulczyński. 169, 170. *G. gracilior* Kulczyński. 171, 172. *G. wiehlei* Schenkel. 167, 169, 171. Male palp, ventral view. 168, 170, 172. Epigynum, ventral view.



Figs. 173–176. *Gnaphosa gracilior* Kulczyński. 173. Left male palp, ventral view. 174. Same, retro-lateral view. 175. Epigynum, ventral view. 176. Same, dorsal view.

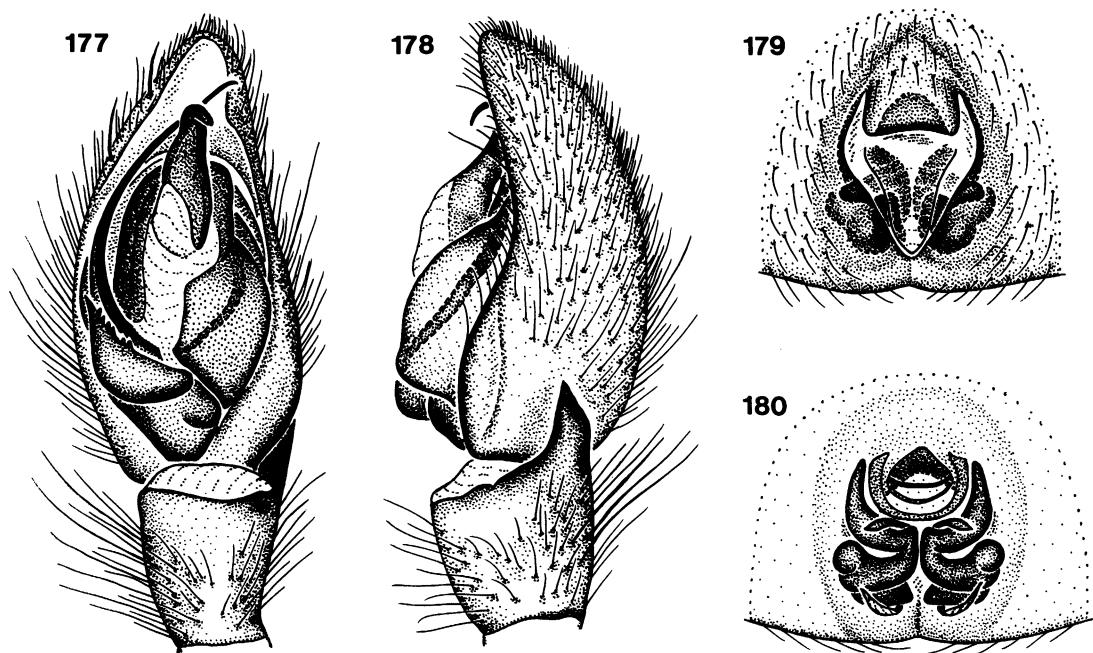
1984–1985 (K. Y. Eskov, Y. M. Marusik, ZIP), 10♀; 14 km S Ust-Omchuga, June 29, 1985 (Y. M. Marusik, ZIP), 1♀. *Tuva*: Kargy River, SE Mugur-Aksy, June 15, 1989, elev. 1600–1700 m (D. V. Logunov, ZIP), 24♀; Khara-Kharachai, 45–50 km SW Mugur-Aksy, June 14, 1989, elev. 2200–2300 m (D. V. Logunov, ZIP), 2♀; Ongalaan Mt. range, 25 km W Erzin, May 27–30, 1989, elev. 1100–1300 m (D. V. Logunov, ZIP), 2♂, 1♀; Ular River, 35 km NE Erzin, June 6, 1989, elev. 1500 m (D. V. Logunov, ZIP), 1♀; 2–3 km N Kyzyl, May 20–June 20, 1989, elev. 700–800 m, steppe (D. V. Logunov, ZIP), 1♂, 6♀; 2–3 km E Kyzyl, July 3, 1989, elev. 700–800 m, steppe, under stones (D. V. Logunov, ZIP), 3♀. *Yakutsk*: Amga River, July 17–18, 1902 (N. Olenin, ZIP), 1♀; Cherskii, Panteleecha River, Aug. 4, 1986, in home (G. A. Chernova, ZIP), 1♀; Churan, Lena River, Sept. 3, 1925 (P. Mishno, ZIP), 1♀; “Vallis fluminis Jana, inter ostium fl. Adytscha et Tschogur,” July 11–17, 1885 (ZIP), 1♀ (holotype). **MONGOLIA**: Central: “Urga,” Ulan-Bator (PAN), 1♀ (holotype). **CHINA**: Xinjiang: Qitai, May 6, 1976 (IZB), 1♀.

DISTRIBUTION: Eastern USSR, Mongolia, and northwestern China (map 18).

SYNONYMY: The junior synonyms were not



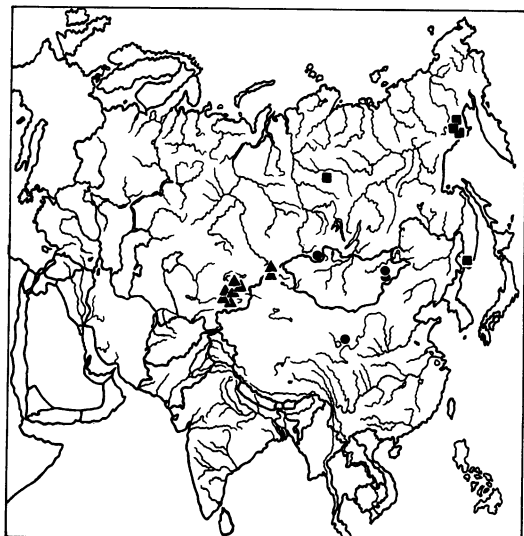
Map 18. Distribution of *Gnaphosa gracilior* (●) and *G. ovchinnikovi* (■).



Figs. 177-180. *Gnaphosa wiehlei* Schenkel. 177. Left male palp, ventral view. 178. Same, retrolateral view. 179. Epigynum, ventral view. 180. Same, dorsal view.

compared with any of the earlier names by their authors.

Gnaphosa wiehlei Schenkel
Figures 171, 172, 177-180; Map 19



Map 19. Distribution of *Gnaphosa wiehlei* (●), *G. chola* (■), and *G. ilika* (▲).

Gnaphosa wiehlei Schenkel, 1963: 95, figs. 55a-c (male holotype from "Tal des Sining ho unterhalb Sining," Gansu, China, in MNHN, examined).

DIAGNOSIS: This species resembles *G. gracilior* but can be distinguished by the serrated keel on the basal portion of the embolus and the short, triangular retrolateral tibial apophysis of males (figs. 171, 177, 178) and the small, relatively posteriorly situated epigynal hood and narrowly spaced, narrow epigynal ducts of females (figs. 172, 179, 180).

MALE: Described by Schenkel (1963).

FEMALE: Total length 9.55. Carapace 3.20 long, 2.50 wide. Femur II 1.80 long. Eye sizes and interdistances: AME 0.12, ALE 0.16, PME 0.12, PLE 0.11; AME-AME 0.12, AME-ALE 0.02, PME-PME 0.06, PME-PLE 0.13, ALE-PLE 0.16; MOQ length 0.37, front width 0.33, back width 0.32. Epigynal atrium deep, with small, relatively posteriorly situated epigynal hood (figs. 172, 179); spermathecae with narrow median ducts (fig. 180). Leg spination: femur IV r0-0-1; tibiae: I p0-0-1, v0-2-2; II p0-0-1, v1-1-2; III p1-1-1, r1-1-0; IV d0-0-0; metatarsi: I v2-0-2; II p0-0-1, v2-0-2; III p2-2-2, v2-2-2, r1-1-2.

MATERIAL EXAMINED: USSR: **Russia:** *Tuva:* 20–25 km W Erzin, Onchalaan Mt. range, May 27–30, 1989, elev. 1100 m, dry lake (D. V. Logunov, ZIP), 7♂, 1♀. **MONGOLIA:** *Sukh-Batar:* Bayuan-Obo Mt., Tumentsoyt, July 20, 1985 (V. I. Ovtsharenko, C. Chimge, Oyunzhargal, ZIP), 2♀; Tumentsoyt, July 28, 1983 (K. Ulykpan, ZIP), 1♀. **CHINA:** **Gansu:** "Tal des Sining ho unterhalb Sining," Apr. 24, 1885 (G. N. Potanin, NMNH), 1♂ (holotype).

DISTRIBUTION: Tuva in the USSR, Sukh-Batar in Mongolia, and Gansu in China (map 19).

***Gnaphosa zonsteini*, new species**

Figures 261, 262; Map 15

TYPE: Female holotype from Koks River, S Alaiskii Mt. range, Osh, Kirghizia, USSR (Aug. 16–17, 1985; S. L. Zonstein), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype.

DIAGNOSIS: This species seems closest to *G. wiehlei* but can be distinguished by the triangular epigynal atrium, indistinct epigynal midpiece, and twisted lateral epigynal ducts of females (figs. 261, 262).

MALE: Unknown.

FEMALE: Total length 7.60. Carapace 3.50 long, 2.60 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.10, ALE 0.16, PME 0.11, PLE 0.15; AME-AME 0.09, AME-ALE 0.05, PME-PME 0.08, PME-PLE 0.27, ALE-PLE 0.27; MOQ length 0.34, front width 0.28, back width 0.33. Epigynal atrium deep, triangular, with indistinct midpiece, lateral pockets posteriorly situated, small, narrow (fig. 261); spermathecae with twisted lateral ducts (fig. 262). Leg spination: femora: II p0-1-1; IV p0-0-1; tibiae: I, II v0-0-2; III p1-1-1, r1-0-1; IV d0-0-0, p1-0-1; metatarsus III v2-2-2, r1-1-2.

OTHER MATERIAL EXAMINED: USSR: **Kirghizia:** *Osh:* Koks River, S Alaiskii Mt. range, Aug. 16–17, 1985 (S. L. Zonstein, ZIP), 4♀; Lenin Mt., Zaalaiskii Mt. range, Aug. 18, 1985 (S. L. Zonstein, ZIP), 1♀.

DISTRIBUTION: Southern Kirghizia, USSR (map 15).

***Gnaphosa licenti* Schenkel**

Figures 181–186; Map 20

Gnaphosa sinensis: Simon, 1880: 121, figs. 22, 23 (male only; not female lectotype).

Gnaphosa licenti Schenkel, 1953: 21, fig. 11 (female holotype from "Koang kia keou," Shanxi, China, supposedly deposited in Museum Hoangho-Peiho, Tientsin, presumed destroyed).

Gnaphosa denisi Schenkel, 1963: 64, figs. 34, 34a, 34b (male and female syntypes from "Fluss San kan ho," Shanxi, China, in MNHN, examined). – Hu, 1984: 279, figs. 293.1–2. – Zhu et al., 1985: 150, figs. 133a–c. – Song, 1987: 338, fig. 293. – Hu and Li, 1988: 301, figs. 31.1–4. – Chen and Gao, 1990: 144, figs. 181a, b. **NEW SYNONYMY.**

Gnaphosa acuaria Schenkel, 1963: 66, figs. 35a, 35b (male holotype from "Kloster Marsan im Tal des Sining ho," Gansu, China, in MNHN, examined). – Mao and Zhu, 1983: 161, figs. 3a–c. – Zhang, 1987: 176, figs. 148.1–3. First synonymized with *G. denisi* by Song, 1987: 338. *Gnaphosa aeditua* Schenkel, 1963: 67, fig. 36 (female syntype from either "Südhang des Kasses Latschi la" or "Plateau von 10000 Fuss ü M. zwischen den Flüssen Ngwaren und Namyn-gytsch," Gansu, China, in MNHN, examined). First synonymized with *G. denisi* by Song, 1987: 339.

Gnaphosa taegensis Paik, 1989: 11, figs. 42–51 (male holotype from Bullo-dong, Taegu, Korea, in collection of K. Y. Paik, not examined). **NEW SYNONYMY.**

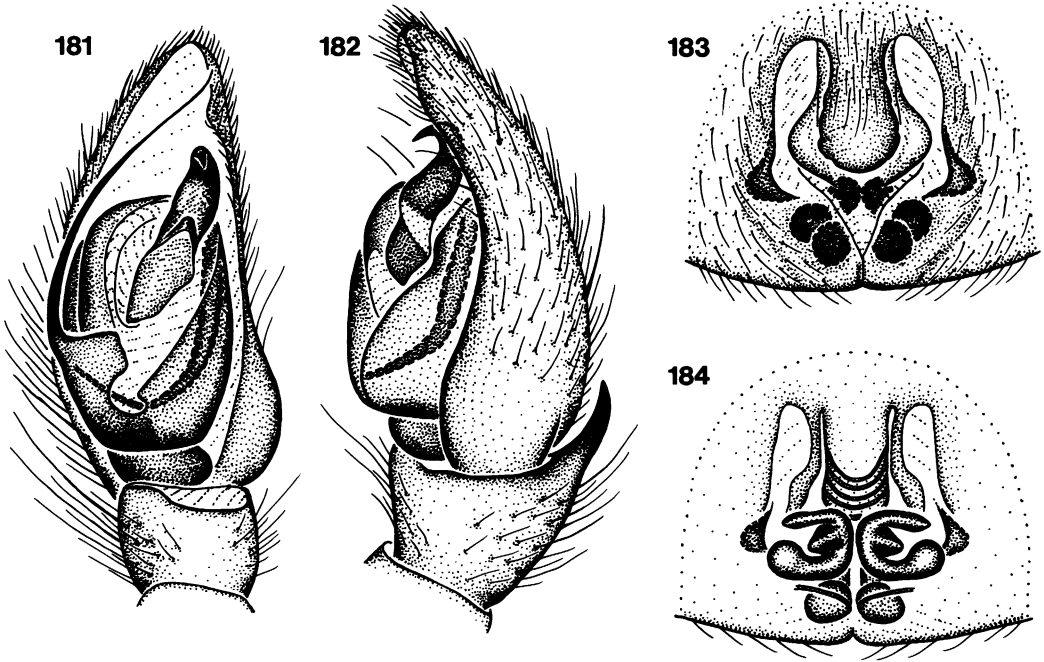
Gnaphosa montana: Hu and Wu, 1989: 269, figs. 219.1–4 (misidentification).

DIAGNOSIS: Males can be recognized by the relatively short embolus and twisted, wide median apophysis (figs. 181, 182, 185), females by the pronounced, rounded epigynal midpiece and posteriorly expanded epigynal hood (figs. 183, 184, 186).

MALE: Described by Schenkel (1963).

FEMALE: Described by Schenkel (1953, 1963).

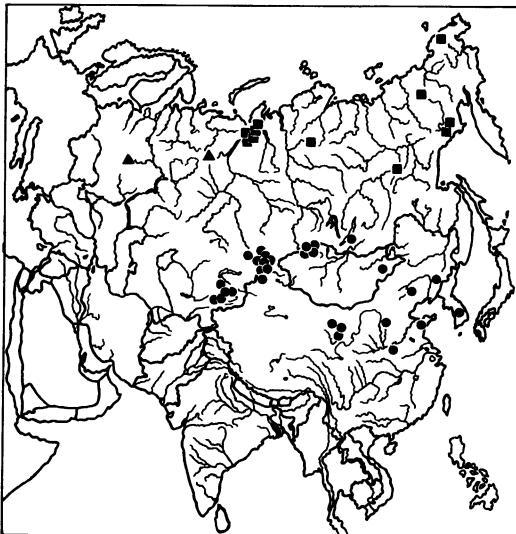
MATERIAL EXAMINED: USSR: **Kazakhstan:** *Alma-Ata:* Ili River, June 6, 1978, desert (Lukhtanov, ZIP), 1♀; Kaskelen, June 7–27, 1979 (Slivkin, ZIP), 10♂, 2♀. *Dzhambul:* Mt. Kindiktas, 15.7 km NW Kenen, June 14, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 7♂, 13♀. *Semipalatinsk:* Shagan River, 30 km S Sarzhal, May 1990 (V. Tishchenko, ZIP), 1♂. *Vostochno-Kazakhstanskaya:* Akkolka River, June 10–28, 1990, dry stony steppe (K.



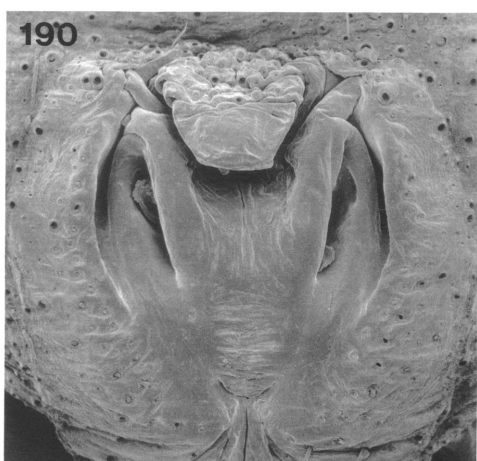
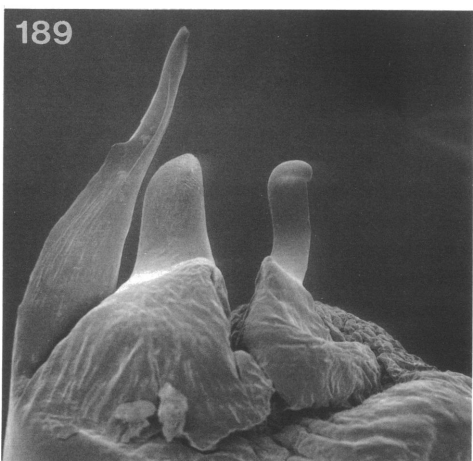
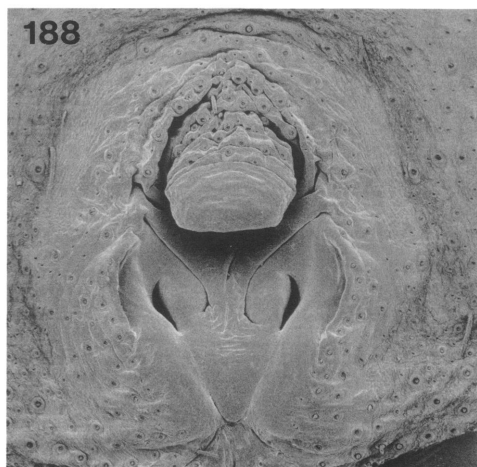
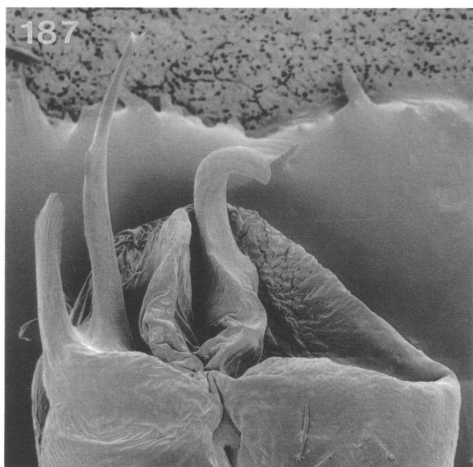
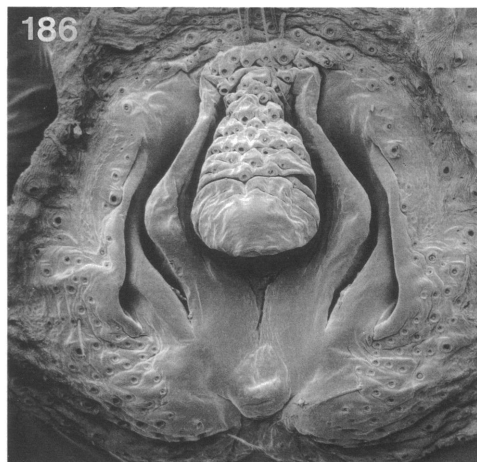
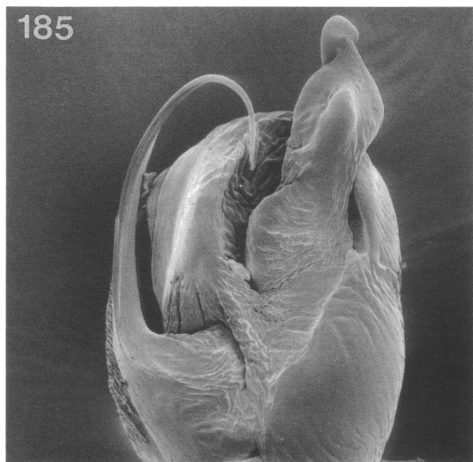
Figs. 181–184. *Gnaphosa licenti* Schenkel. 181. Left male palp, ventral view. 182. Same, retrolateral view. 183. Epigynum, ventral view. 184. Same, dorsal view.

Y. Eskov, ZIP), 1♂, 1♀; Babkina Melnitsa, Oct. 7, 1968 (L. G. Saveljeva, ZIP), 2♀, Aug. 16, 1970 (L. G. Saveljeva, ZIP), 1♀; Irtysh River, July 1987 (L. G. Saveljeva, ZIP), 3♂; Novaya Bushtarma, Aug. 11, 1980 (L. G. Saveljeva, ZIP), 1♀, Sept. 4, 1989, under

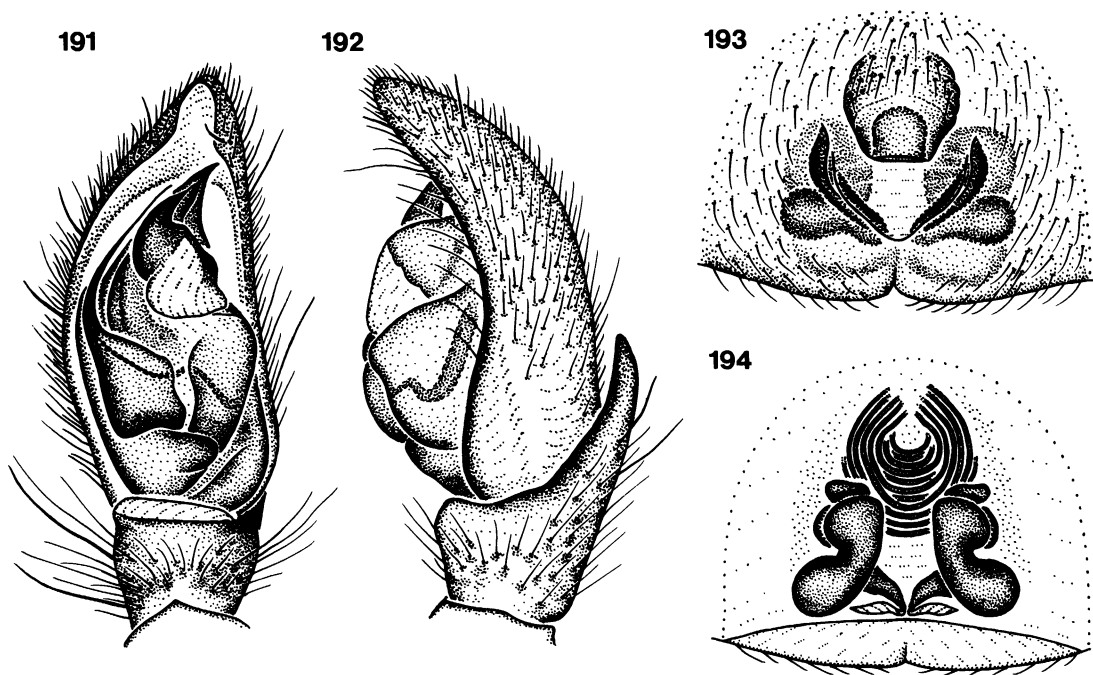
stones (L. G. Saveljeva, ZIP), 1♀; Saur Mt. range, Karaungur River, near Kenderlyk River, June 6–22, 1990 (K. Y. Eskov, ZIP), 1♂, 1♀; Ust-Kamenogorsk, June 26, 1967 (L. G. Saveljeva, ZIP), 1♀, Aug. 15, 1987 (L. G. Saveljeva, ZIP), 2♀. **Kirghizia:** *Frunze:* Frunze, May 4, 1981 (S. L. Zonstein, ZIP), 1♀; Mt. Bozbultek, Kirghiz Mt. range, Chon-Aryk, May 28, 1983, elev. 1200 m (S. V. Ovchinnikov, ZIP), 2♂. **Russia:** *Buryatiya:* Mostovoi, June 3, 1983, under stones (S. N. Danilov, ZIP), 1♀. *Tuva:* Azas Reservation, June 21–22, 1989 (D. V. Logunov, ZIP), 3♀; Ongolaan Mt. range, 20–25 km W Erzin, May 27–30, 1989, elev. 1100–1300 m (D. V. Logunov, ZIP, AMNH), 11♂, 7♀, June 1, 1989 (D. V. Logunov, ZIP), 3♂, 2♀; Uamaalych Mt. range, June 9–10, 1989, elev. 1200–1300 m (D. V. Logunov, ZIP), 3♂, 7♀. **MONGOLIA:** *Sukh-Batar:* Mt. Tumentsogt, July 17, 1985, under stones (C. Chimge, Oyunzhargal, ZIP), 2♀. **CHINA:** *Beijing:* Beijing (de Plancy, MNHN), 1♂ (paralectotype). *Gansu:* “Kloster Marsan im Tal des Sining ho,” Apr. 28, 1885 (G. N. Potanin, MNHN), 1♂ (syntype); either “Südhang des Passes Latschi la,” May 4, 1885 (G. N. Potanin, MNHN) or “Plateau von 10000 Fuss ü M. zwischen den Flüssen



Map 20. Distribution of *Gnaphosa licenti* (●), *G. orites* (■), and *G. bicolor* (▲).



Figs. 185–190. 185, 186. *Gnaphosa licenti* Schenkel. 187, 188. *G. borea* Kulczyński. 189, 190. *G. microps* Holm. 185, 187, 189. Male palp, ventral view. 186, 188, 190. Epigynum, ventral view.



Figs. 191–194. *Gnaphosa ovchinnikovi*, new species. 191. Left male palp, ventral view. 192. Same, retrolateral view. 193. Epigynum, ventral view. 194. Same, dorsal view.

Ngwaren und Namyngytsh,” May 15–16, 1885 (G. N. Potanin, MNHN), 1♀ (syntype). **Henan:** Xinxiang (B. Tsai, AMNH, CTB), 3♂, 4♀. **Liaoning:** Chaoyang, Sept. 7, 1981 (S. F. Zhu, IZB), 1♂, 1♀. **Shandong:** T’ai Shan, Hwang Har Ho (AMNH), 1♂. **Shanxi:** “Fluss San kan ho,” June 30, 1884 (G. N. Potanin, MNHN), 1♂, 1♀ (syntypes). **Xinjiang:** Tacheng, Sept. 20, 1983 (Y. P. Fu, IZB), 1♂. **KOREA:** Taegu, May 25, 1958 (J. D. Ha, CKYP), 1♂ (paratype).

DISTRIBUTION: USSR, Mongolia, China, and Korea (map 20).

SYNONYMY: No diagnostic information was provided by Schenkel (1963) or Paik (1989) for any of the synonyms, and there appears to be none. Although the holotype of *G. licenti* is presumed destroyed, Schenkel’s (1953) epigynal illustration, showing a pronounced midpiece and a posteriorly expanded hood, leaves little doubt about the identity of the specimen.

***Gnaphosa ovchinnikovi*, new species**

Figures 191–194; Map 18

TYPES: Male holotype and female allotype from Bozbultek Mt., nr. Chon-Aryk, N slope

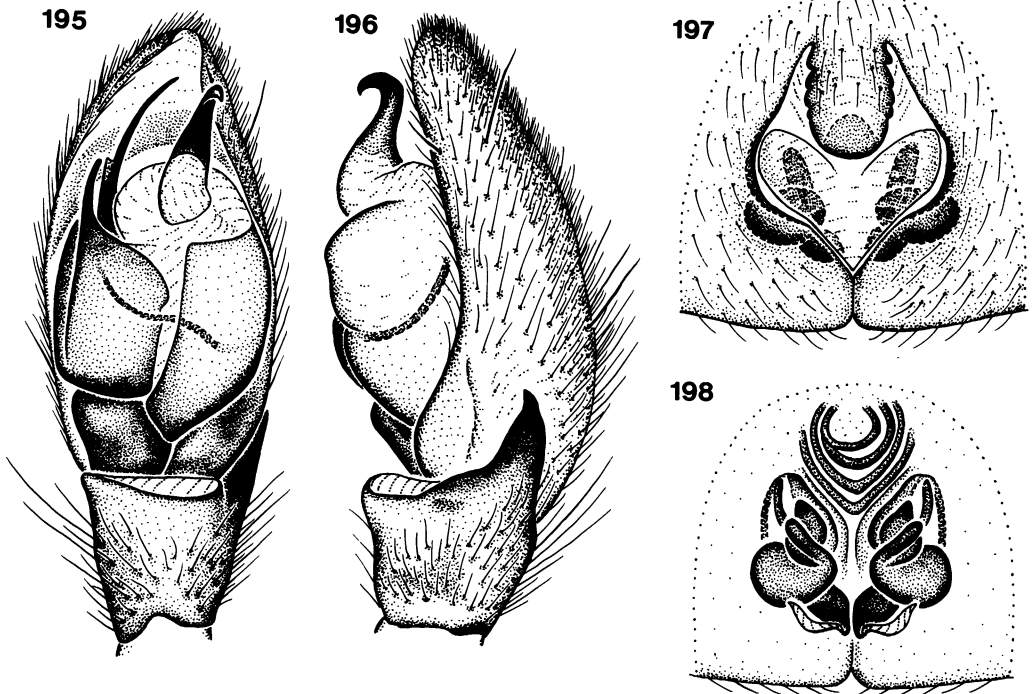
Kirghiz Mt. range, Frunze, Kirghizia, USSR (May 29, 1983; S. V. Ovchinnikov), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the types.

DIAGNOSIS: This species can be distinguished by the folded, basally widened median apophysis of males (figs. 191, 192) and the wide epigynal midpiece and elongated, widely separated median epigynal ducts of females (figs. 193, 194).

MALE: Total length 6.70. Carapace 3.20 long, 2.50 wide. Femur II 2.20 long. Eye sizes and interdistances: AME 0.09, ALE 0.14, PME 0.14, PLE 0.13; AME-AME 0.11, AME-ALE 0.07, PME-PME 0.04, PME-PLE 0.22, ALE-PLE 0.40; MOQ length 0.39, front width 0.28, back width 0.36. Palp with folded, basally widened median apophysis functioning as conductor (fig. 191); retrolateral tibial apophysis moderately long, sharply pointed (fig. 192). Leg spination: femora: II p0-1-1; IV r0-0-1; tibiae: III r1-1-1; IV p1-1-1; metatarsus III r1-1-2.

FEMALE: Total length 8.20. Carapace 3.70 long, 2.50 wide. Femur II 2.30 long. Eye sizes and interdistances: AME 0.11, ALE 0.16,



Figs. 195–198. *Gnaphosa borea* Kulczyński. 195. Left male palp, ventral view. 196. Same, retrolateral view. 197. Epigynum, ventral view. 198. Same, dorsal view.

PME 0.10, PLE 0.11; AME-AME 0.11, AME-ALE 0.05, PME-PME 0.08, PME-PLE 0.27, ALE-PLE 0.32; MOQ length 0.38, front width 0.29, back width 0.29. Epigynal atrium shallow, with wide midpiece and very short anterior hood (fig. 193); spermathecae with long, wide, widely separated ducts (fig. 194). Leg spination: femora: II p0-1-1; IV r0-0-1; tibiae: III r1-1-1; IV p1-0-1; metatarsus III r1-1-2.

OTHER MATERIAL EXAMINED: USSR: Kirghizia: Frunze: Bozbultek Mt., nr. Chon-Aryk, N slope Kirghiz Mt. range, May 29, 1983 (S. V. Ovchinnikov, ZIP), 1♂. Issyk-Kul: Chon-Kurchak, Kirghiz Mt. range, July 1, 1986 (S. V. Ovchinnikov, ZIP), 1♀. Talas: Otpok Mt. pass, Talasskii Mt. range, Aug. 21, 1986 (S. V. Ovchinnikov, ZIP), 2♀.

DISTRIBUTION: Kirghizia, USSR (map 18).

THE BOREA GROUP

The four species placed in this group have short emboli restricted to the distal portion of the male palpal bulb and distinct, paired epigynal depressions. These species are abun-

dant at high northern latitudes, and all of them except *G. chola* are Holarctic in distribution.

Gnaphosa borea Kulczyński

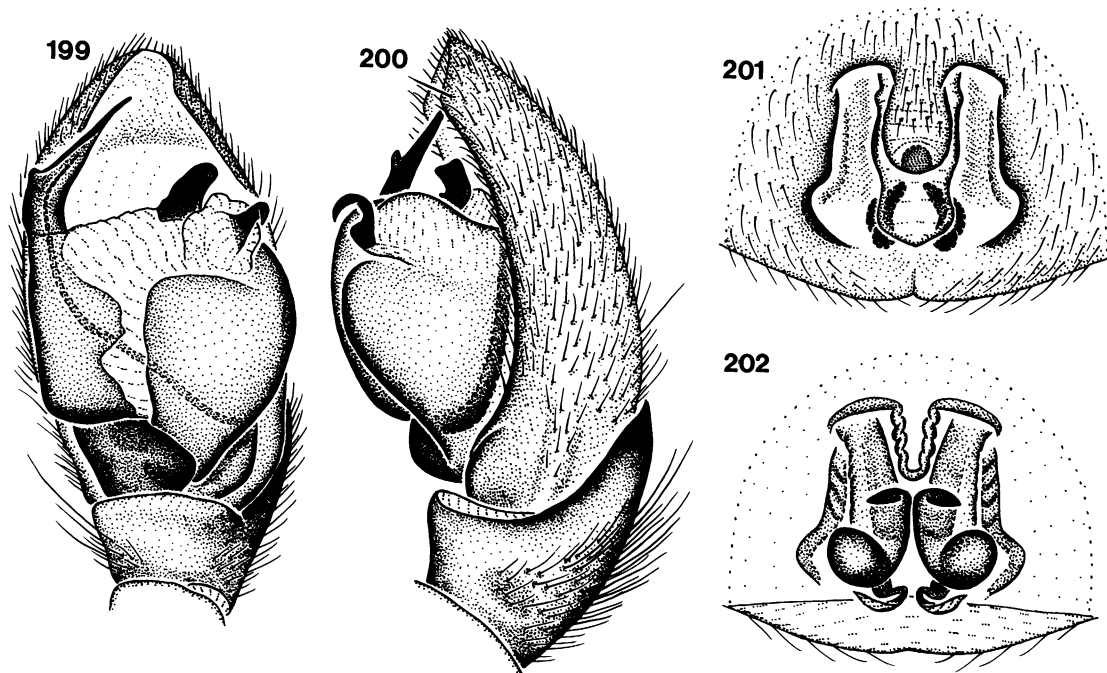
Figures 187, 188, 195–198; Map 17

Gnaphosa borea Kulczyński, 1908: 9, fig. 6 (female holotype from "Inter Sataghai et Ulachan Sullar," Adytscha River, Vershoysk, Yakutsk, Russia, USSR, in ZIP, examined). – Ovtsharenko and Marusik, 1988: 207, figs. 7–11.

Gnaphosa mima Chamberlin, 1933: 2, figs. 3, 4 (male holotype from Seba Beach, Alberta, Canada, in AMNH, examined). – Platnick and Shadab, 1975: 38, figs. 87–93. First synonymized by Ovtsharenko and Marusik, 1988: 207. *Gnaphosa orites*: Platnick and Shadab, 1975: 46, figs. 109, 110 (misidentification, female only).

NOTE: See Platnick and Shadab (1975) for American synonyms.

DIAGNOSIS: Males can be recognized by the presence of an elongate functional conductor parallel to the embolus (figs. 187, 195, 196), females by the distinct anterolateral corners of the epigynum (figs. 188, 197, 198).



Figs. 199–202. *Gnaphosa chola* Ovtsharenko and Marusik. 199. Left male palp, ventral view. 200. Same, retrolateral view. 201. Epigynum, ventral view. 202. Same, dorsal view.

MALE: Described by Platnick and Shadab (1975).

FEMALE: Described by Platnick and Shadab (1975).

MATERIAL EXAMINED: USSR: **Russia:** *Chita:* W slope, Sagan-Ula Mt., Sokhondinskii Reservation, June 1982, elev. 1700 m, upper border of forest zone (N. Shevyrev, ZIP), 1♂. *Chukotka:* Chaunskaya guba, mouth of Pucheveem River, June–Aug. 1982 (N. Obushenkov, ZIP), 4♂, 1♀. *Khabarovsk:* Uega, 61°N, 143°E, June 16, 1935 (B. Koshkin, ZIP), 1♂. *Magadan:* Aborigin research station, Cibat-Tyellach, Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 400♂♀. *Yakutsk:* “Inter Sataghai et Ulachan Sularr,” Adytscha River, Vershoiansk, July 3–6, 1885 (ZIP), 1♀ (holotype).

DISTRIBUTION: Holarctic (see map 17 for north Asian records). Platnick and Shadab (1975) misidentified one female of this species (from 20 mi E Tuktoyaktuk, Mackenzie, Canada) as the female of *G. orites*; males of both species are known from that locality.

Gnaphosa chola Ovtsharenko and Marusik
Figures 199–202; Map 19

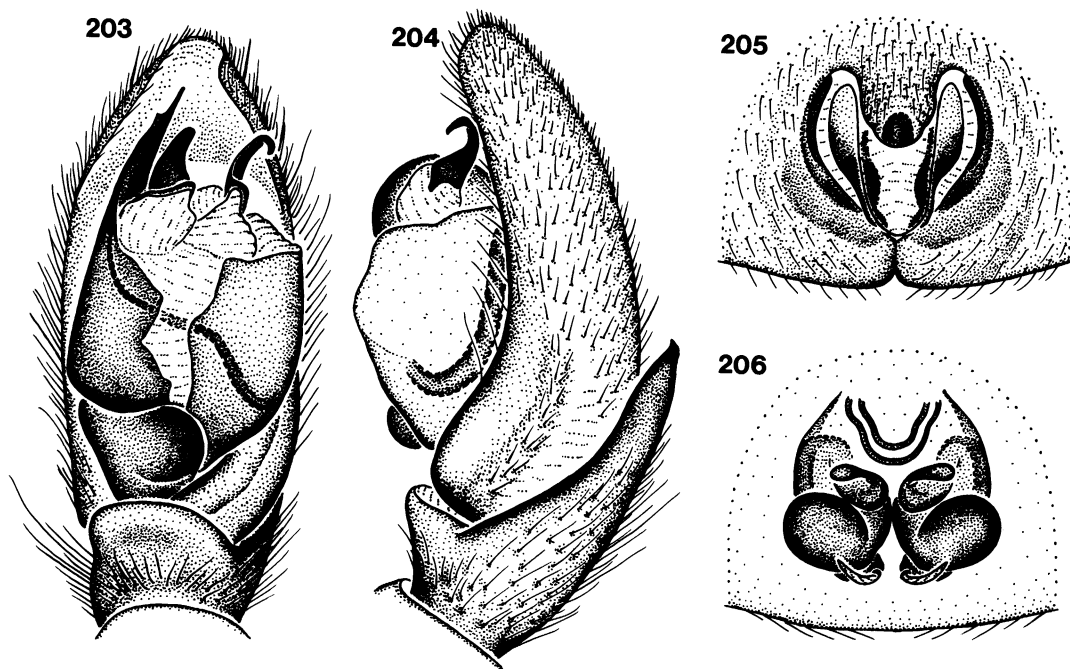
Gnaphosa chola Ovtsharenko and Marusik, 1988: 209, figs. 18, 19, 21, 23, 25 (male holotype from middle part of Chelomdzha River, drainage-basin Kava River, Magadan, Russia, USSR, in ZIP, examined).

DIAGNOSIS: Males can be recognized by the broad embolus and short, curved conductor (figs. 199, 200), females by the parallel lateral margins of the epigynal atrium and the wide lateral epigynal ducts (figs. 201, 202).

MALE: Described by Ovtsharenko and Marusik (1988).

FEMALE: Described by Ovtsharenko and Marusik (1988).

MATERIAL EXAMINED: USSR: **Russia:** *Krasnoyarsk:* Kerbo, mouth Chambe River, Taimura River, Evenk area, Aug. 15, 1982 (K. Y. Eskov, ZIP), 1♀ (paratype). *Magadan:* middle part, Chelomdzha River, drainage-basin Kava River, June 30–July 5, 1985, pit-fall trap (N. E. Dokuchaev, ZIP), 1♂ (holotype); 56 km N Uct-Omchuga, July 29, 1985,



Figs. 203–206. *Gnaphosa microps* Holm. 203. Left male palp, ventral view. 204. Same, retrolateral view. 205. Epigynum, ventral view. 206. Same, dorsal view.

June 20, 1986 (Y. M. Marusik, ZIP), 2♀; Talon, July 1979 (N. E. Dokuchaev, ZIP), 1♀. Primorskii: Kamenushka, Barsukovca River, July 13, 1981 (G. Belova, ZIP), 1♀ (paratypes).

DISTRIBUTION: Northeastern Russia (map 19).

Gnaphosa microps Holm

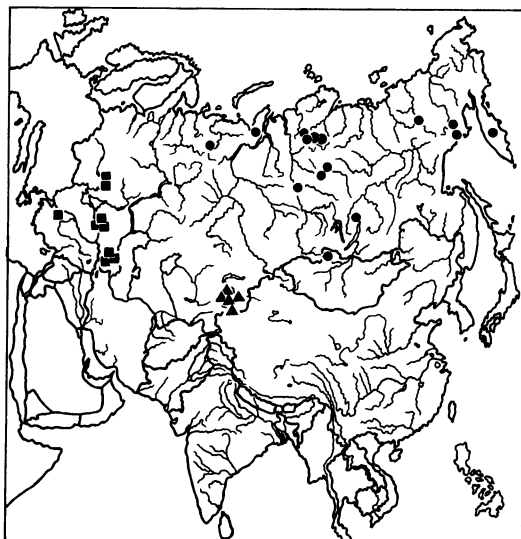
Figures 189, 190, 203–206; Map 21

Gnaphosa bilineata L. Koch, 1879: 86, pl. 3, fig. 5 (female holotype from Potapovo, Taimyr, Russia, USSR, in NRS, examined).

Gnaphosa microps Holm, 1939: 9, fig. 4 (female holotype from Abisko National Park, Lappland, Sweden, in Uppsala Universitet, examined by Platnick and Shadab, 1975). – Platnick and Shadab, 1975: 44, figs. 101–106. – Thaler, 1982: 406, figs. 8, 9. – Grimm, 1985: 70, figs. 41, 79, 80. – Ovtsharenko and Marusik, 1988: 205, figs. 1–3. – Heimer and Nentwig, 1991: 422, figs. 1111.1–4. First synonymized by Holm, 1973: 103, who suppressed *G. bilineata* as an unused senior synonym.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: Males can be recognized by the presence of a hooklike functional conductor, narrow embolus, and narrow median apoph-



Map 21. Distribution of *Gnaphosa microps* (●), *G. modestior* (■), and *G. tarabaei* (▲).

ysis (figs. 189, 203, 204), females by the long lateral epigynal pockets (figs. 190, 205, 206).

MALE: Described by Platnick and Shadab (1975).

FEMALE: Described by Platnick and Shadab (1975).

MATERIAL EXAMINED: USSR: **Russia:** *Buryatiya:* Gaudgicit River, 15 km N Severobaikalsk, July 20, 1984 (A. Ryvkin, ZIP), 1♂. *Kamchatka:* nr. Esso, July 11, 1989, elev. 480 m, pitfall traps (T. V. Pavlenko, ZIP, AMNH), 2♂, 2♀. *Komi:* Vodnii, Ukhta area, July 15–25, 1973 (V. I. Ovtsharenko, ZIP), 3♂. *Krasnoyarsk:* Amnuructa River, Plato Putorana, Evenk area, Aug. 12, 1983 (K. Y. Eskov, ZIP), 2♀; Ayan Lake, Kapchug River, May 29–June 30, 1983 (K. Y. Eskov, ZIP), 1♂, 5♀; Essei Lake, Aug. 1979 (O. Chernikov, ZIP), 1♂; Gulyami River, Aug. 10, 1983 (K. Y. Eskov, ZIP), 1♀; Kerbo, mouth Chambe River, Taimura River, June–Aug. 1982 (K. Y. Eskov, ZIP), 1♂, 3♀; 40 km up mouth Kochechum River, Nizhnyaya Tunguska River, July 5–23, 1978 (A. Vakhrushev, ZIP), 1♂, 1♀; nr. Mirnoe, Enisei River, Apr. 5, 1977, fir forest (K. Y. Eskov, ZIP), 2♀, July 22, 1978, in moss (K. Y. Eskov, ZIP), 1♂, Aug. 14, 1979 (K. Y. Eskov, ZIP), 1♂. *Magadan:* Aborigin research station, Kulu River, upper part of Kolima River, Cibit-Tyellach, Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 1000♂♀; Talon, E Magadan, July 1979 (N. E. Dokuchaev, ZIP), 27♂. *Tyumen:* Sopkei, Khe-Yakha River, nr. Shchuche, Aug. 7–Sept. 21, 1980 (T. R. Andreeva, ZIP), 4♂, 8♀. *Yakutiya:* upper part Dogdachan River, Chembagalat River, Indigarka, Sept. 1942 (A. P. Vaskovski, ZIP), 1♀. **MONGOLIA:** **Khubsugul:** Tarbagatai Mt. range, Zhargalant area, Aug. 13, 1985, alpine meadow (B. Shekhtel, ZIP), 3♂.

DISTRIBUTION: Holarctic (see map 21 for north Asian records).

SYNONYMY: Holm (1973) first recognized the synonymy of *microps* and *bilineata*, but continued to use the younger name. We follow Holm on the grounds that “a prima facie case that stability is threatened” could be made under Article 79b of the International Code of Zoological Nomenclature. Koch’s name appears not to have been used (outside of catalogs) since Kulczyński (1916), and even that usage probably represents a misidentification of a *G. orites* female (see Holm, 1973).

Holm’s name, on the other hand, has been in regular use over the last 50 years and has received more than the necessary 10 citations by at least five authors.

Gnaphosa orites Chamberlin

Figures 207–212; Map 20

Gnaphosa orites Chamberlin, 1922: 158 (male holotype from Mount Katahdin, Piscataquis County, Maine, in Museum of Comparative Zoology, examined by Platnick and Shadab, 1975). – Platnick and Shadab, 1975: 46, figs. 65, 107, 108 (male only; female = *G. borea*). – Ovtsharenko and Marusik, 1988: 208, figs. 4–6.

Gnaphosa stuxbergi Holm, 1970: 206, fig. 40 (female holotype from St. Lawrence Bay, Nu’namo, Chukotka, Russia, USSR, in NRS, examined by Ovtsharenko and Marusik, 1988). First synonymized by Ovtsharenko and Marusik, 1988: 208.

Gnaphosa microps: Platnick and Shadab, 1975: 44 (misidentification, some females only).

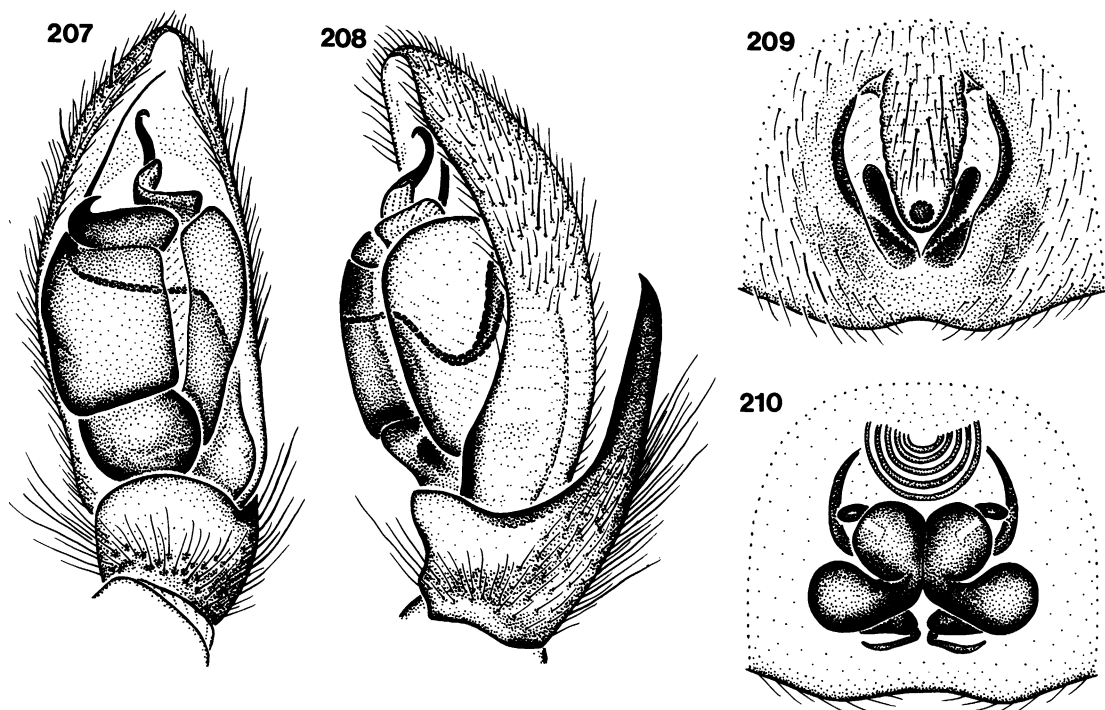
NOTE: See Platnick and Shadab (1975) for American and European synonyms.

DIAGNOSIS: Males can be recognized by the hooklike functional conductor, narrow embolus, and narrow median apophysis (figs. 207, 208, 211), females by the relatively short lateral epigynal pockets (figs. 209, 210, 212).

MALE: Described by Platnick and Shadab (1975).

FEMALE: Described by Ovtsharenko and Marusik (1988).

MATERIAL EXAMINED: USSR: **Russia:** *Chukotka:* Amguema River, 30 km N Igultina, Aug. 8–19, 1982 (V. S. Kononenko, ZIP), 1♀. *Krasnoyarsk:* Ayan Lake, Kapchug River, May 29, 1983 (K. Y. Eskov, ZIP), 2♀. *Magadan:* Aborigin research station, Cibit-Tyellach, Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 200♂♀; Contactovy Spring, Upper Kolima River, 147°30'E, 61°40'N, 1989 (S. Bushkalo, CNC), 3♀. *Tyumen:* Khe-Yakha River, S Yamal, July 31–Aug. 4, 1980 (T. R. Andreeva, ZIP), 1♂; mouth Tailova-Yakha River, Shchuchya River, S Yamal, June 25, 1979 (T. R. Andreeva, ZIP), 3♀; Shchuche, July 17–Aug. 12, 1980 (T. R. Andreeva, ZIP), 14♂; Sopkei, Aug. 11–Sept. 21, 1980 (T. R. Andreeva, ZIP), 17♂, 3♀; mouth Tailova-Yakha River, Shchuchya River, July 11, 1979 (T. R. Andreeva, ZIP), 15♂. *Yakutiya:* Kibidri River, left tributary



Figs. 207–210. *Gnaphosa orites* Chamberlin. 207. Left male palp, ventral view. 208. Same, retrolateral view. 209. Epigynum, ventral view. 210. Same, dorsal view.

Amga River, 1902 (N. Olenin, ZIP), 1♀; Konkovaya, Nizhnekolymsk area, July 10–20, 1986, pitfall traps (ZIP), 2♂, 3♀.

DISTRIBUTION: Northern Holarctic region (see map 20 for north Asian records). Because of the misidentification of some females by Platnick and Shadab (1975), their records of *G. microps* from Great Whale River, Quebec, and Coppermine, Mackenzie, actually refer to this species instead.

THE *BICOLOR* GROUP

Males belonging to this group have the embolus shifted retrolaterally, so that it occupies at least part of the middle one-third of the palpal bulb; females have laterally expanded epigyna and often have very elongate median epigynal ducts. The group is exclusively Palearctic.

Gnaphosa bicolor (Hahn)

Figures 217–220; Map 20

Drassus bicolor Hahn, 1831: 123, fig. 94 (female holotype from Germany, depository unknown).

Gnaphosa bicolor: Thorell, 1871: 191. – Tys-

chchenko, 1971: 92, fig. 179. – Grimm, 1985: 52, figs. 34–36. – Heimer and Nentwig, 1991: 420, figs. 1107.1–4.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: Males can be recognized by the arched palpal embolus and hirsute palpal femur (figs. 217, 218), females by the triangular epigynal hood and anteriorly extended spermathecae (figs. 219, 220).

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

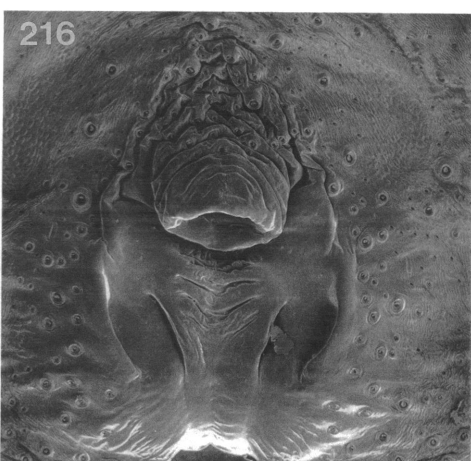
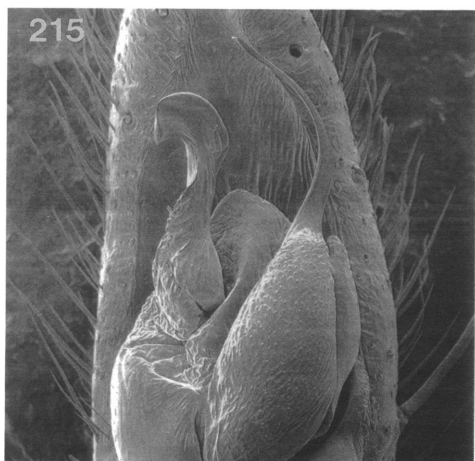
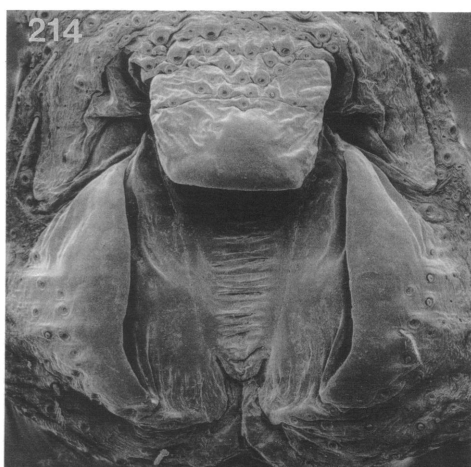
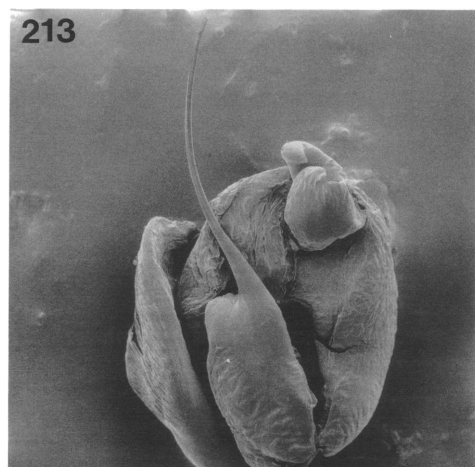
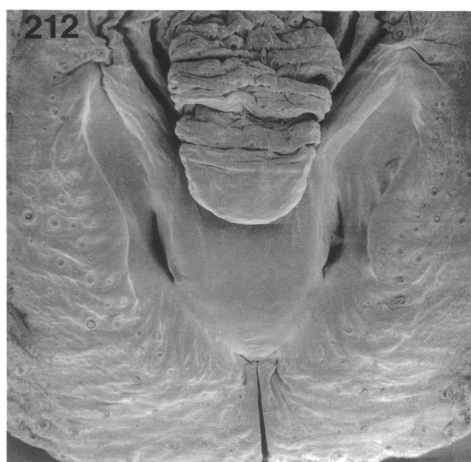
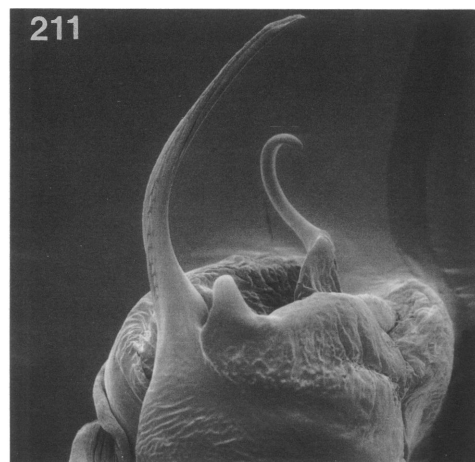
MATERIAL EXAMINED: USSR: **Russia:** *Ryazan:* Okskii Reservation, July 13, 1978, pine forest (K. Y. Eskov, ZIP), 1♂. *Komi:* Pechor-Ilychskii Reservation, July 10, 1975 (N. M. Pachorukov, ZIP), 1♀.

DISTRIBUTION: Europe (map 20).

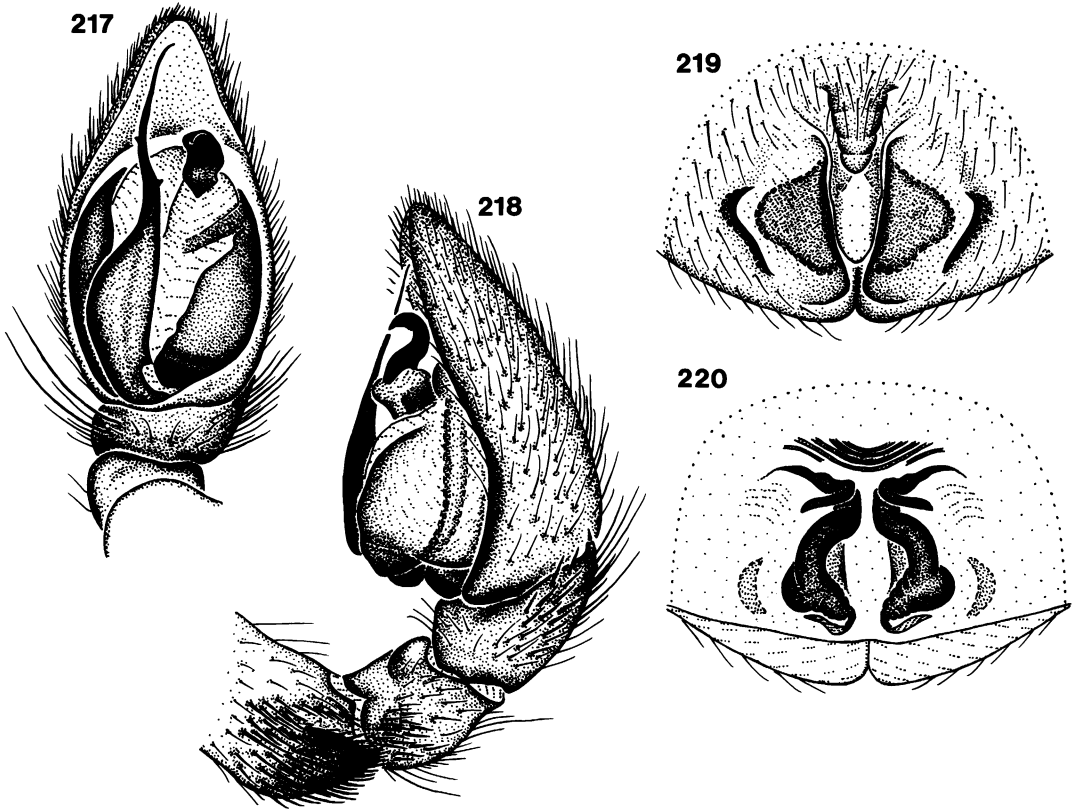
Gnaphosa alpica Simon

Figures 221–224

Gnaphosa alpica Simon, 1878: 183 (two female syntypes from the French Alps, in MNHN, examined). – Grimm, 1985: 49, figs. 77, 78. – Heimer and Nentwig, 1991: 426, figs. 1122.3, 4.



Figs. 211–216. 211, 212. *Gnaphosa orites* Chamberlin. 213, 214. *G. modestior* Kulczyński. 215, 216. *G. tarabaei*, new species. 211, 213, 215. Male palp, ventral view. 212. 214. 216. Epigynum, ventral view.



Figs. 217–220. *Gnaphosa bicolor* (Hahn). 217. Left male palp, ventral view. 218. Same, retrolateral view. 219. Epigynum, ventral view. 220. Same, dorsal view.

Gnaphosa laeta Kulczyński, in Chyzer and Kulczyński, 1897: 185, pl. 7, fig. 19 (female holotype from Szerencs, Hungary, should be in HMNH, not examined). NEW SYNONYMY. *Gnaphosa modestior*: Kulczyński, in Chyzer and Kulczyński, 1897: 184, pl. 7, figs. 18b, c (misidentification, male only). – Grimm, 1985: 72, figs. 37, 38 (misidentification, male only). – Heimer and Nentwig, 1991: 420, figs. 1108.1, 2 (misidentification, male only).

NOTE: This European species is listed here only because it seems to have been confused with *G. modestior*. *Gnaphosa alpica* and *G. laeta* have been known only from females. Kulczyński described both sexes of *G. modestior*, but from separate localities; his only male was from “Diakovár,” now in Yugoslavia. The Soviet material listed below under *G. modestior* indicates that Kulczyński’s male is not conspecific with his female syntypes (from Hungary and Romania).

DIAGNOSIS: This species seems to be the

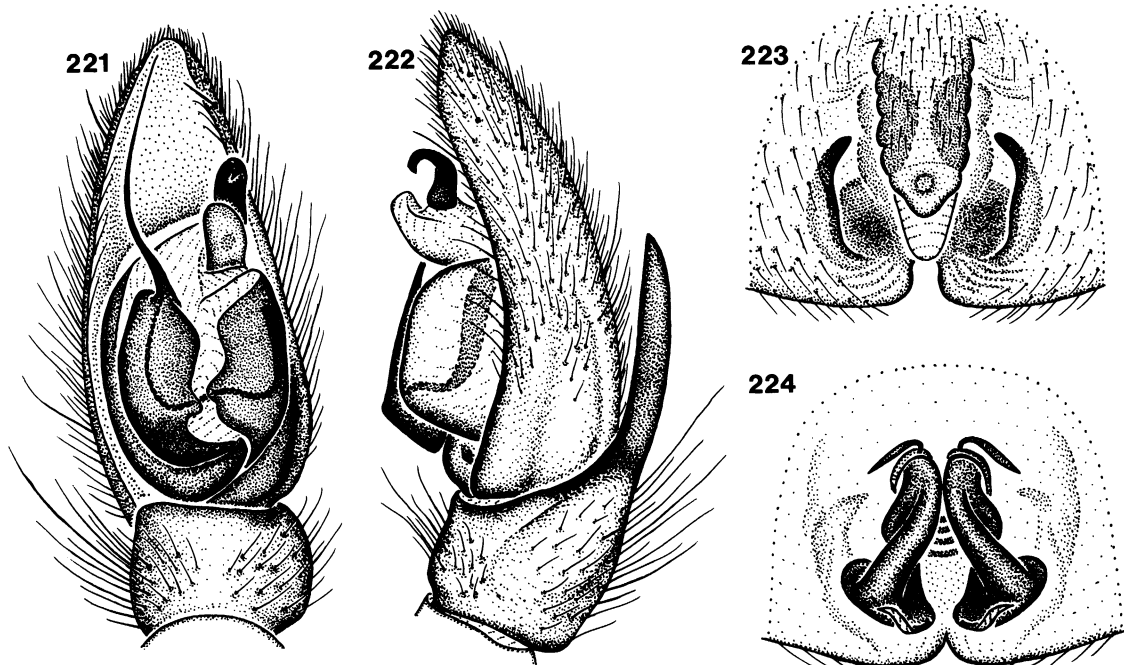
western European sister species of *G. modestior* but can easily be distinguished by the much longer retrolateral tibial apophysis of males (figs. 221, 222) and the much longer epigynal hood of females (figs. 223, 224).

DISTRIBUTION: Alpine regions of at least France, Switzerland, Austria, and Yugoslavia.

SYNONYMY: Although the first author was not able to find the holotype of *G. laeta* in HMNH, we synonymize that name because Kulczyński clearly regarded it as closely related to (if not identical with) *G. modestior*, and his illustration of the epigynum shows the distinctively long epigynal hood characteristic of the species.

Gnaphosa modestior Kulczyński
Figures 213, 214, 225–228; Map 21

Gnaphosa modestior Kulczyński, in Chyzer and Kulczyński, 1897: 184, pl. 7, fig. 18a (female



Figs. 221–224. *Gnaphosa alpica* Simon. 221. Left male palp, ventral view. 222. Same, retrolateral view. 223. Epigynum, ventral view. 224. Same, dorsal view.

lectotype, here designated, from either “Al-mádi” [Balaton Lake], Hungary, or “Orsova (Allion),” Mehedinti, Romania, in HMNH, examined; not male, = *G. alpica*).

DIAGNOSIS: This species seems closest to *G. alpica* but can be distinguished by the much shorter retrolateral tibial apophysis of males (fig. 226) and the much shorter epigynal hood of females (figs. 214, 227, 228).

MALE: Total length 7.40. Carapace 3.40 long, 2.50 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.09, ALE 0.13, PME 0.10, PLE 0.10; AME-AME 0.10, AME-ALE 0.03, PME-PME 0.06, PME-PLE 0.19, ALE-PLE 0.24; MOQ length 0.38, front width 0.29, back width 0.31. Palp with long, narrow embolus with short, rounded basal portion (figs. 213, 225); retrolateral tibial apophysis short, curved (fig. 226). Leg spination: femora: II p0-1-1; IV p0-0-0; tibiae: I v0-0-0; III p1-1-1, r1-1-1; IV d0-0-0, p1-0-1; metatarsus III v2-2-2, r1-1-1.

FEMALE: Described by Kulczyński, in Chyzer and Kulczyński (1897).

MATERIAL EXAMINED: USSR: **Azerbaijan:** Pirkuli Reservation, May 23, 1984 (D. V.

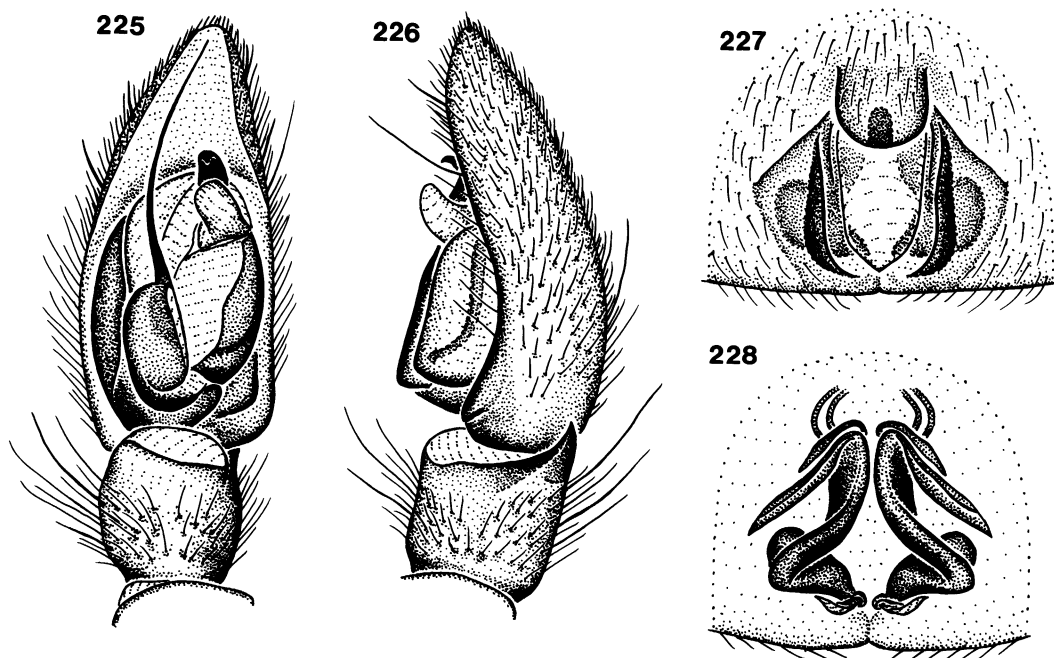
Logunov, ZIP), 1♀; Chanut-Chai River, Sept. 16, 1984 (D. V. Logunov, ZIP), 1♀. **Georgia:** Lagodeshi Reservation, Shromiecheva River, June 21–30, 1982, elev. 500 m, under stones (Y. M. Marusik, ZIP), 1♂, 5♀. **Russia:** **Krasnodar:** Guseripl, Kavkazskii Reservation, June 15, 1976 (V. I. Ovtsharenko, ZIP), 1♂, 1♀; Krasnaya Polyana, July 23, 1938 (I. T. Polyanichka, ZIP), 2♀; July 27, 1976 (V. I. Ovtsharenko, ZIP), 1♀. **Ukraine:** **Dnepropetrovsk:** Andreevka, Samara River, Novomoskovsk area, May 14–July 10, 1972–1974 (A. A. Zyuzin, ZIP), 4♂, 2♀; Gvardeiskii, July 1973 (A. A. Zyuzin, ZIP), 1♀. **TURKEY:** “Anatolia bor.: Abant-Gebirge b. Bolu,” Apr. 29–May 20, 1976, pitfall traps (H. Korae, CJW), 1♂.

DISTRIBUTION: Ukraine and the Caucasus (map 21).

***Gnaphosa tarabaei*, new species**

Figures 215, 216, 229–232; Map 21

TYPES: Male holotype and female allotype from Kurdai Mt. pass, 37 km NE Georgievka, Krasnogorka area, Dzhabul, Kazakh-



Figs. 225–228. *Gnaphosa modestior* Kulczyński. 225. Left male palp, ventral view. 226. Same, retrolateral view. 227. Epigynum, ventral view. 228. Same, dorsal view.

stan, USSR (June 13–14, 1990; A. A. Zyuzin, A. A. Fedorov, C. K. Tarabaev), deposited in ZIP.

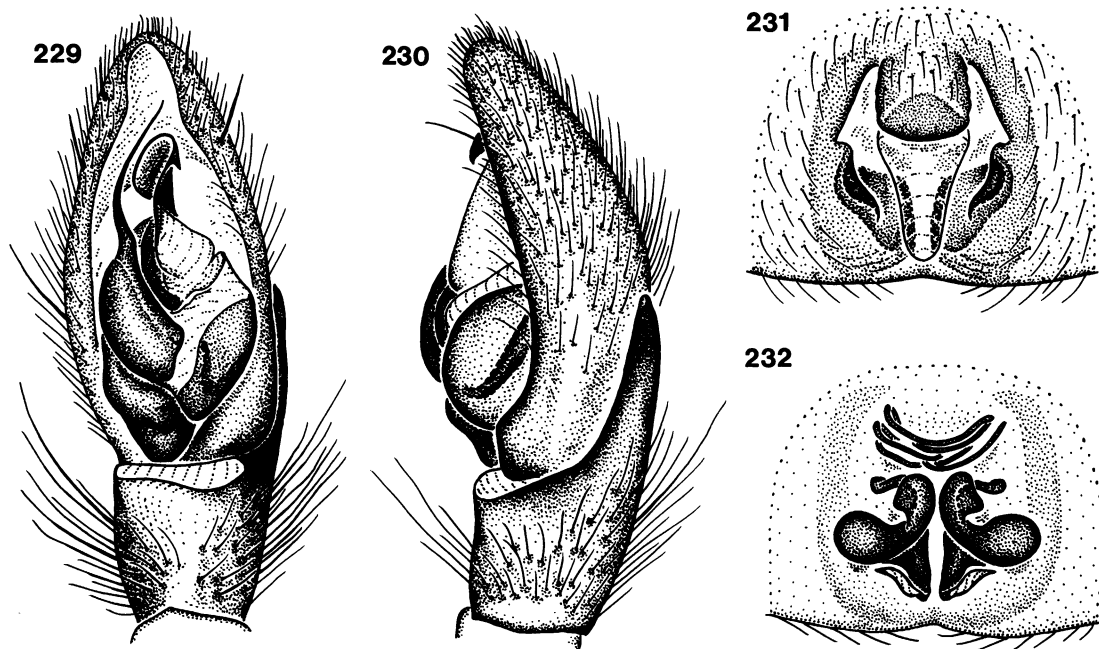
ETYMOLOGY: The specific name is a patronym in honor of one of the collectors of this species.

DIAGNOSIS: This species can be distinguished by the hooklike, widened apical portion of the median apophysis and long retrolateral tibial apophysis of males (figs. 215, 229, 230) and the deep posterolateral epigynal sockets and long, curved median epigynal ducts of females (figs. 216, 231, 232).

MALE: Total length 8.20. Carapace 4.10 long, 2.90 wide. Femur II 2.60 long. Eye sizes and interdistances: AME 0.11, ALE 0.13, PME 0.13, PLE 0.13; AME-AME 0.11, AME-ALE 0.04, PME-PME 0.07, PME-PLE 0.24, ALE-PLE 0.37; MOQ length 0.42, front width 0.31, back width 0.36. Palp with basal portion of embolus widened, median apophysis apically twisted, hooklike (figs. 215, 229); retrolateral tibial apophysis long, curved at tip (fig. 230). Leg spination: femur II p0-1-1; tibiae: III p1-1-1, r1-1-1; IV d0-0-0, p1-0-1, r1-0-1.

FEMALE: Total length 10.60. Carapace 3.90 long, 3.20 wide. Femur II 2.40 long. Eye sizes and interdistances: AME 0.11, ALE 0.17, PME 0.12, PLE 0.14; AME-AME 0.13, AME-ALE 0.05, PME-PME 0.09, PME-PLE 0.26, ALE-PLE 0.31; MOQ length 0.41, front width 0.33, back width 0.38. Epigynal atrium with deep posterolateral pockets (figs. 216, 231); spermathecae with long, curved ducts (fig. 232). Leg spination: femora: II p0-1-1; IV r0-0-1; patella IV r0-1-0; tibiae: II v0-1-1; III p1-1-1, r1-1-1; IV d0-0-0; metatarsi: I, II v0-2-1; III v2-2-2, r1-2-2.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Dzhambul:* Kurdai Mt. pass, 37 km NE Georgievka, Krasnogorka area, June 13–14, 1990 (A. A. Zyuzin, A. A. Fedorov, C. K. Tarabaev, ZIP), 1♂, 6♀; 15.7 km NW Kenen, Kindiktas Mt., June 14, 1990 (A. A. Zyuzin, A. A. Fedorov, C. K. Tarabaev, ZIP), 1♂, 1♀. **Kirghizia:** *Frunze:* Chu River, May 1974 (S. L. Zonstein, ZIP), 1♂, 1♀. *Issyk-Kul:* Kok-Moinok Mt., July 25–26, 1966, semi-desert (P. Vtorov, ZIP), 1♀. *Naryn:* Kochkorka, June 24–25, 1987 (A. A. Shileiko, ZIP), 5♀.



Figs. 229–232. *Gnaphosa tarabaevi*, new species. 229. Left male palp, ventral view. 230. Same, retrolateral view. 231. Epigynum, ventral view. 232. Same, dorsal view.

DISTRIBUTION: Southeastern Kazakhstan and northern Kirghizia in the USSR (map 21).

Gnaphosa badia (L. Koch)

Figures 233–236; Map 22

Pythonissa badia L. Koch, 1866: 22, fig. 15 (female syntypes from “Tirol und im bayerischen Hochgebirge,” may be in BMNH, not examined).

Gnaphosa badia: L. Koch, 1872: 305. – Tyschchenko, 1971: 92, fig. 180. – Izmailova, 1977: 70, fig. 1. – Polnec, 1982: 65, fig. 5. – Grimm, 1985: 49, figs. 29–33. – Heimer and Nentwig, 1991: 422, figs. 1118.1–4.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: This species can easily be distinguished by the greatly expanded median apophysis of males (figs. 233, 234) and the widely separated lateral epigynal margins of females (figs. 235, 236).

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: We have seen no material of this species from the USSR, but

the species has been recorded from the Carpathian Mountains (Tyschchenko, 1971; Kirilenko and Legotai, 1981).

DISTRIBUTION: Montane regions of central and eastern Europe, including (apparently) the western USSR (map 22).

THE *LEPORINA* GROUP

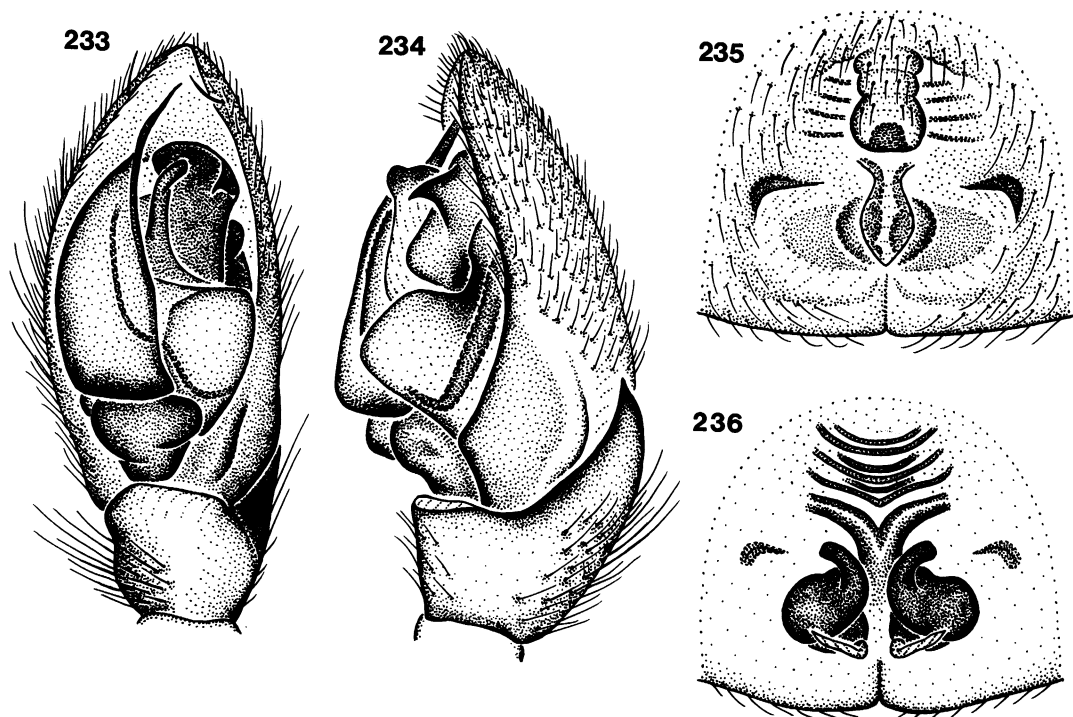
Males of this exclusively Palearctic group have the embolus recessed behind a tegular protrusion, resulting in a palpal configuration reminiscent of the genus *Zelotes*; females have a striated epigynal hood and anteriorly expanded median epigynal ducts.

Gnaphosa leporina (L. Koch)

Figures 237–242; Map 22

Pythonissa leporina L. Koch, 1866: 27, fig. 19 (female holotype from Siebenbürgen [Romania], may be in BMNH, not examined).

Gnaphosa leporina: Thorell, 1871: 193. – Azheganova, 1968: 97, figs. 229, 238. – Tyschchenko, 1971: 94, figs. 184, 189. – Grimm, 1985: 57, figs. 40, 56, 57, 75. – Roberts, 1985: 76, fig. 28c. – Zhou and Song, 1985: 271, figs. 2a–d. – Hu



Figs. 233–236. *Gnaphosa badia* (L. Koch). 233. Left male palp, ventral view. 234. Same, retrolateral view. 235. Epigynum, ventral view. 236. Same, dorsal view.

and Wu, 1989: 268, figs. 217.1–4. – Heimer and Nentwig, 1991: 420, figs. 1109.1–4.

NOTE: See Grimm (1985) for European synonyms.

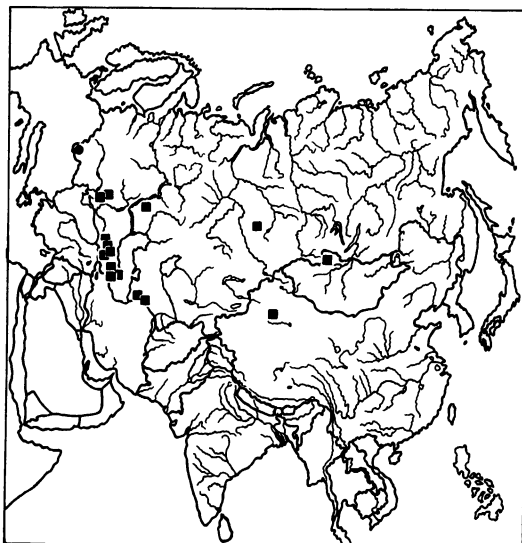
DIAGNOSIS: This species can be distinguished by the elongate palpal tegulum (figs. 237, 238, 241) of males and the parallel lateral epigynal margins and anteriorly expanded median epigynal ducts (figs. 239, 240, 242) of females.

MALE: Described by Grimm (1985).

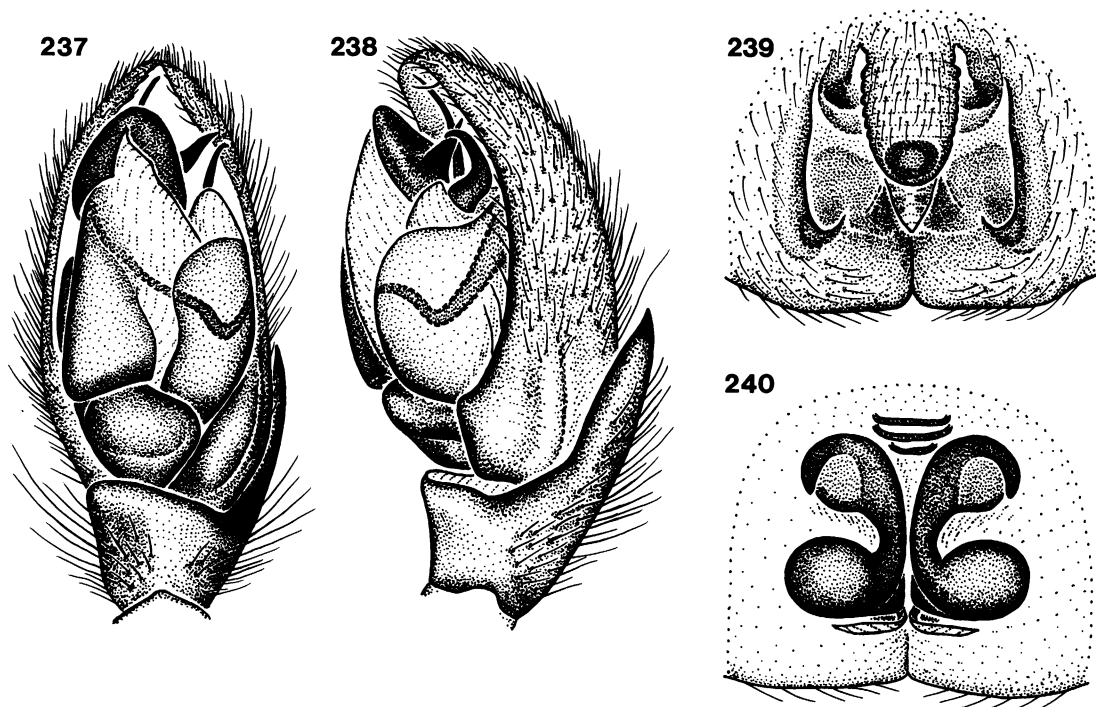
FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: USSR: **Azerbaijan:** Divagach, Lerik, July 2, 1985 (P. M. Dunin, ZIP), 2♀; Kyzyl-Agach, Jan. 6–9, 1980 (Alekseev, ZIP), 1♀; Saatly, nr. Dzhafershan, June 15–July 6, 1982 (P. M. Dunin, ZIP), 1♂, 2♀. **Georgia:** Rustavi, Kura River, Aug. 11, 1982, under stone (Y. M. Marusik, ZIP), 1♀. **Kazakhstan:** Uralsk: Dzhaniybek, June 18–29, 1982, birch forest (K. G. Mikchailov, ZIP), 1♂, 2♀. **Russia:** Kabardino-Balkariya: Adylsu Gorge, Aug. 21, 1972 (A. A. Zyuzin, ZIP), 1♀. **North Osetiya:** Tsei Mt. range, North Os-

etiya Reservation, June 8–July 20, 1985, elev. 2750 m, alpine meadow (S. K. Alekseev, ZIP), 3♀; Mt. Khunratkhokh, Skalistyi Mt. range,



Map 22. Distribution of *Gnaphosa badia* (●) and *G. leporina* (■).



Figs. 237–240. *Gnaphosa leporina* (L. Koch). 237. Left male palp, ventral view. 238. Same, retrolateral view. 239. Epigynum, ventral view. 240. Same, dorsal view.

Ardon River, June 2–July 2, 1985, elev. 2500 m, pitfall traps (S. K. Alekseev, ZIP), 2♂. *Novosibirsk*: Karachi, July 1970, saltmarsh (V. Shilenkov, ZIP), 1♀. *Turkmenistan*: *Krasnovodsk*: Parkhai, Kara-Kala, May 4, 1987 (A. A. Zyuzin, ZIP), 1♂, 1♀; Germab, Kopetdag, June 16–22, 1982 (G. T. Kuznetsov, ZIP), 2♂. *Ukraine*: *Donetsk*: Kamennye Mogily Reservation, May 25, 1983 (N. Polchaninova, ZIP), 2♂. *Zaporozhe*: nr. Berdyansk, July 24, 1939, seashore, in dry *Cladophora* (V. Nikolaev, ZIP), 1♀. *MONGOLIA*: *Khubsugul*: Zhargalant, Tarbagatai Mt. range, Aug. 13, 1985, alpine meadow (B. Shekhtel, ZIP), 2♂. *CHINA*: *Xinjiang*: Bohu, July 3, 1984 (N. L. Zhou, IZB), 1♀.

DISTRIBUTION: Palearctic (map 22).

***Gnaphosa pseudoleporina*, new species**

Figures 247–250; Map 23

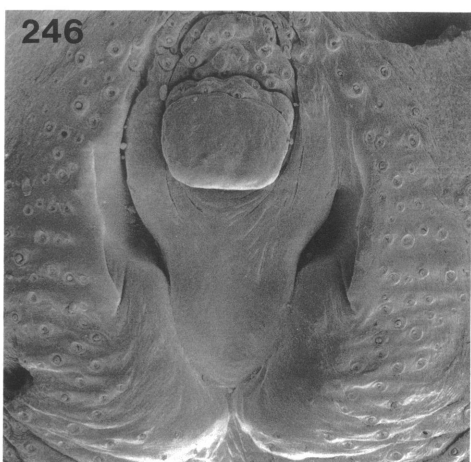
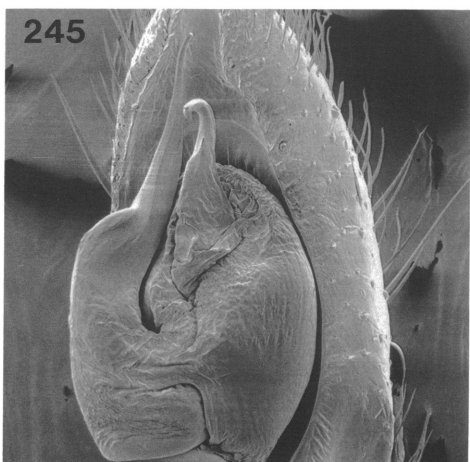
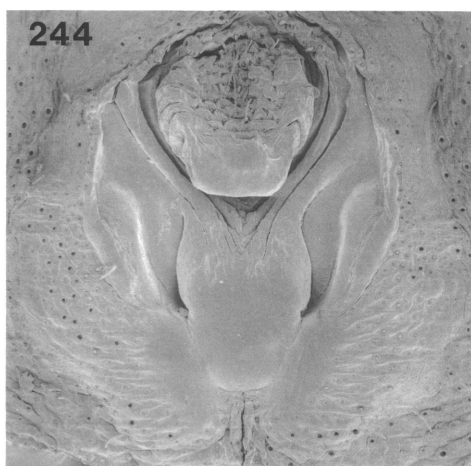
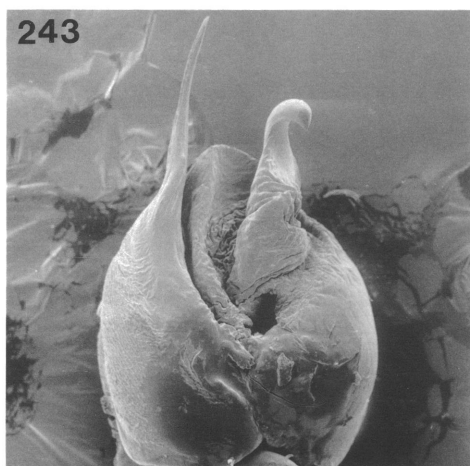
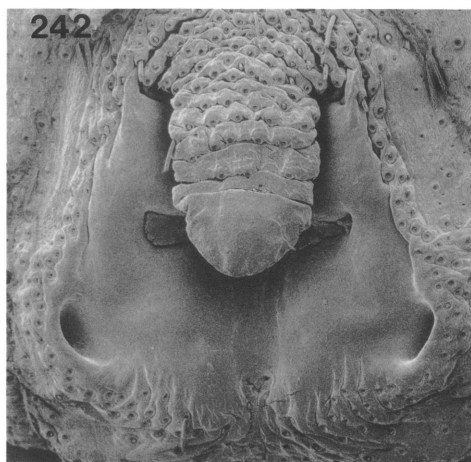
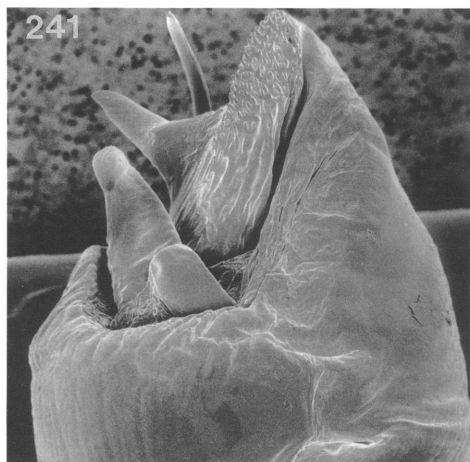
TYPES: Male holotype and female allotype from Tanzibei, Kulumys Mt. range, Khakass area, Krasnoyarsk, Russia, USSR (July 13, 1985; A. V. Nikolaev), deposited in ZIP.

ETYMOLOGY: The specific name refers to the similarities with *G. leporina*.

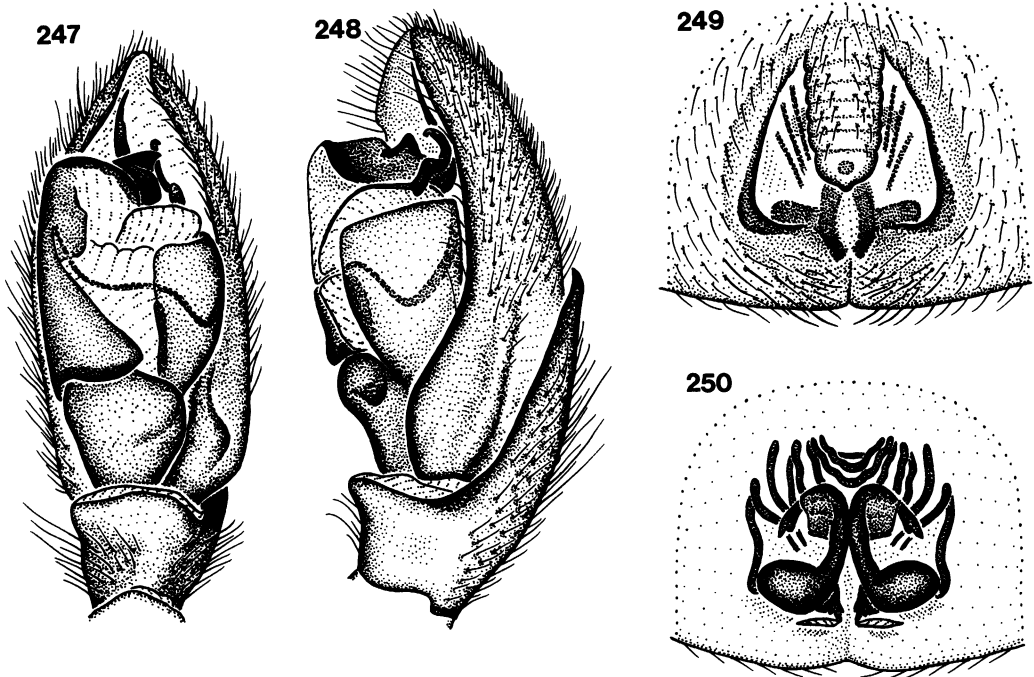
DIAGNOSIS: This species can be recognized by the form of the embolar base and conductor (fig. 247) of males, and the triangular epigynal atrium and long, narrow median epigynal ducts (figs. 249, 250) of females.

MALE: Total length 7.10. Carapace 3.40 long, 2.70 wide. Femur II 2.20 long. Eye sizes and interdistances: AME 0.10, ALE 0.17, PME 0.13, PLE 0.13; AME-AME 0.10, AME-ALE 0.05, PME-PME 0.05, PME-PLE 0.20, ALE-PLE 0.21; MOQ length 0.39, front width 0.27, back width 0.32. Palp with wide embolar base, narrow apical portion of embolus, broad conductor, and narrow median apophysis (fig. 247); retrolateral tibial apophysis long, slightly curved at tip (fig. 248). Leg spination: femur II r0-1-1; patella III r0-0-0; tibiae: I, II v0-0-2; IV d0-0-0; metatarsus III v2-2-2, r1-1-2.

FEMALE: Total length 8.40. Carapace 4.20 long, 2.90 wide. Femur II 5.30 long. Eye sizes and interdistances: AME 0.12, ALE 0.17, PME 0.13, PLE 0.12; AME-AME 0.13, AME-



Figs. 241–246. 241, 242. *Gnaphosa leporina* (L. Koch). 243, 244. *G. montana* (L. Koch). 245. *G. reikhardi*, new species. 246. *G. aborigena* Tyschchenko. 241, 243, 245. Male palp, ventral view. 242, 244, 246. Epigynum, ventral view.



Figs. 247–250. *Gnaphosa pseudoleporina*, new species. 247. Left male palp, ventral view. 248. Same, retrolateral view. 249. Epigynum, ventral view. 250. Same, dorsal view.

ALE 0.03, PME-PME 0.08, PME-PLE 0.23, ALE-PLE 0.26; MOQ length 0.41, front width 0.33, back width 0.38. Epigynum with triangular atrium (fig. 249); spermathecae with long and narrow median ducts (fig. 250). Leg

spination: tibia IV d0-0-0; metatarsus III v2-2, r1-1-2.

OTHER MATERIAL EXAMINED: USSR: **Russia:** *Krasnoyarsk:* Tanzibei, Kulumys Mt. range, Khakass area, July 13, 1985, elev. 1300 m (A. V. Nikolaev, ZIP), 4♀; Oiskoe Lake, July 1985, elev. 2000 m (A. V. Nikolaev, ZIP), 4♀.

DISTRIBUTION: Known only from Khakass area, South Krasnoyarsk, Russia (map 23).

Gnaphosa petrobia L. Koch

Figures 251–254; Map 23

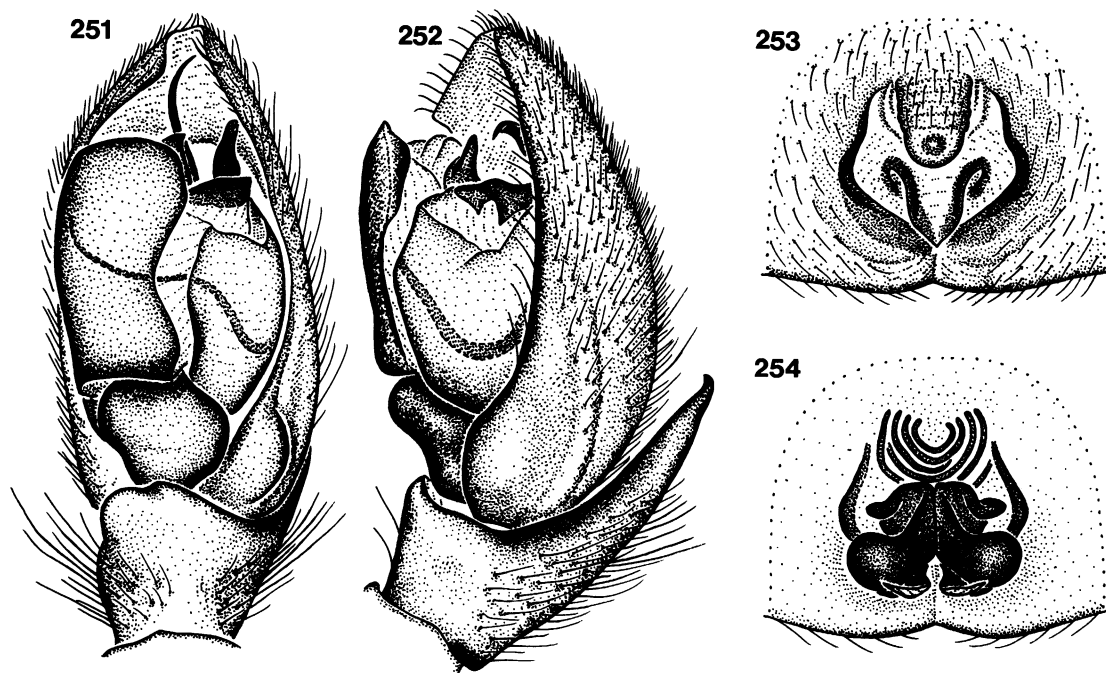
Gnaphosa petrobia L. Koch, 1872: 302 (male and female syntypes from Tirol, Austria, may be in BMNH, not examined). – Tyschchenko, 1971: 92, figs. 183, 190. – Grimm, 1985: 79, figs. 39, 58, 59. – Heimer and Nentwig, 1991: 420, figs. 1110.1–4.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: This species is similar to both *G. leporina* and *G. pseudoleporina* but can be separated by the larger embolar base and shorter conductor (figs. 251, 252) of males, and the anteriorly narrowed epigynal atrium



Map 23. Distribution of *Gnaphosa pseudoleporina* (●), *G. petrobia* (■), and *G. sinensis* (▲).



Figs. 251–254. *Gnaphosa petrobica* L. Koch. 251. Left male palp, ventral view. 252. Same, retrolateral view. 253. Epigynum, ventral view. 254. Same, dorsal view.

and short epigynal ducts (figs. 253, 254) of females.

MALE: Described by Grimm (1985).

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: We have seen no material of this species from the USSR, but it has been recorded from the Carpathian Mountains (Legotai, 1958; Tyschchenko, 1971).

DISTRIBUTION: Montane regions of central and eastern Europe, including (apparently) the western USSR (map 23).

THE *SINENSIS* GROUP

Males of this group have thickened emboli and short, at least partially divided retrolateral tibial apophyses; females have lightly sclerotized epigyna with distinct midpieces and widened spermathecae. The group is apparently restricted to Kirghizia, China, and Korea.

Gnaphosa sinensis Simon

Figures 255–258; Map 23

Gnaphosa sinensis Simon, 1880: 121, fig. 24 (female lectotype, here designated, from Beijing,

Beijing, China, in MNHN, examined; not male, = *G. licenti*). – Song and Hubert, 1983: 17, figs. 46–49. – Zhu et al., 1985: 152, figs. 135a–c. – Zhang, 1987: 180, figs. 151.1–3. – Song, 1987: 339, fig. 294. – Chen and Gao, 1990: 145, figs. 183a–c.

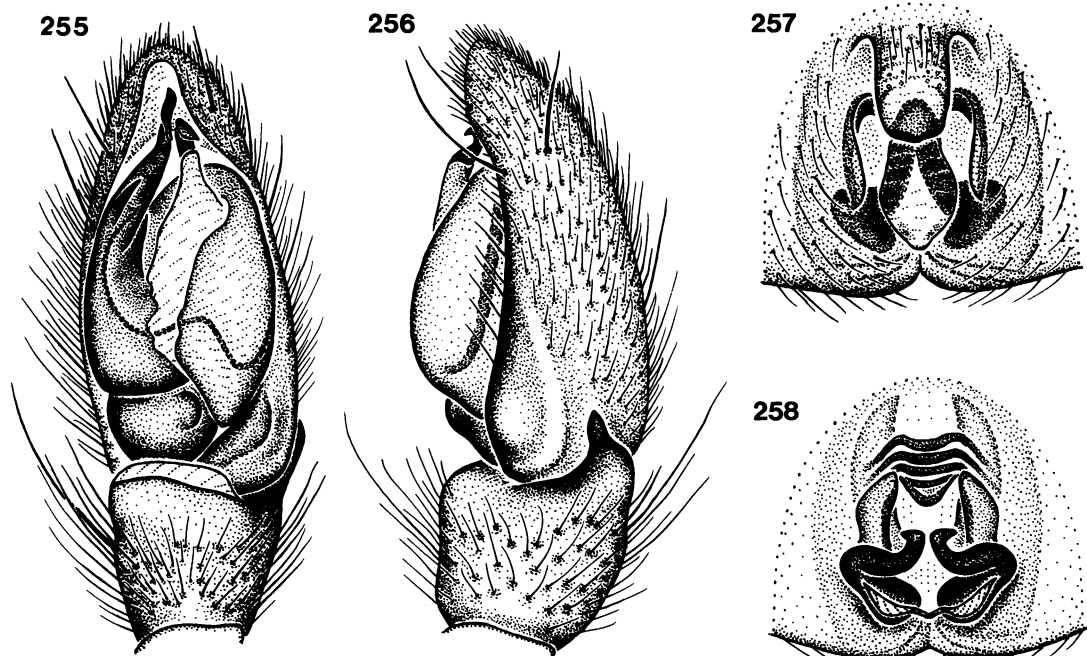
Gnaphosa koreae Strand, 1907a: 122 (female holotype from Korea, in ZMH, examined). – Paik and Kim, 1989: 40, figs. 1–6. NEW SYNONYMY.

Gnaphosa kratochvili Schenkel, 1963: 61, figs. 32a–c (female syntype from Gansu, China, in MNHN, examined). First synonymized with *G. sinensis* by Song, 1987: 339.

Gnaphosa bonneti Schenkel, 1963: 62, fig. 33 (female holotype from “Chan tschuan im Tal des Sining ho,” Gansu, China, in MNHN, examined). NEW SYNONYMY.

Gnaphosa martae Schenkel, 1963: 85, fig. 48 (female holotype from “Tal des Flusses Lantscha lunwa,” Gansu, China, in MNHN, examined). NEW SYNONYMY.

Gnaphosa schensiensis Schenkel, 1963: 90, figs. 52a, 52b (male syntype from “Inkia fu,” Shaanxi, China, in MNHN, examined). – Zhu et al., 1985: 151, figs. 134a–c. – Zhang, 1987: 179, figs. 150.1–3. – Hu and Li, 1988: 299, figs. 30.3–4. NEW SYNONYMY.



Figs. 255–258. *Gnaphosa sinensis* Simon. 255. Left male palp, ventral view. 256. Same, retrolateral view. 257. Epigynum, ventral view. 258. Same, dorsal view.

DIAGNOSIS: Males can be distinguished by the twisted apical portion of the embolus and the sinuous retrolateral tibial apophysis with one tip (figs. 255, 256), females by the long epigynal hood, short lateral epigynal margins, and anteriorly narrowed epigynal midpiece as well as the short median epigynal ducts (figs. 257, 258).

MALE: Described by Schenkel (1963).

FEMALE: Described by Schenkel (1963).

MATERIAL EXAMINED: CHINA: **Beijing:** Beijing, Apr. 6–27, 1925 (W. P. Claassen, AMNH), 4♀, (de Plancy, MNHN), 3♀ (lectotype, paralectotypes). **Gansu:** one of five localities given by Schenkel, 1963: 62 (G. N. Potanin, MNHN), 1♀ (syntype); “Chantschuan im Tal des Sining ho,” Apr. 22, 1895 (G. N. Potanin, MNHN), 1♀ (holotype); “Tal des Flusses Lantscha lunwa,” May 15, 1895 (G. N. Potanin, MNHN), 1♀ (holotype). **Henan:** Xinxiang (B. Tsai, CTB), 1♂. **Shaanxi:** “Inkia fu,” 1873 (A. David, MNHN), 1♂ (syntype). **Shanxi:** Taigu, May 10, 1982 (M. S. Zhu, IZB), 3♀. **Sichuan:** Xiangcheng, June 18, 1982 (Z. Y. Li, IZB), 1♀. **Xizang:** Markat, June 6, 1976, elev. 2600 m (IZB), 1♀. **KO-**

REA: no specific locality (Warburg, ZMH), 1♀ (holotype).

DISTRIBUTION: Widespread in China and Korea (map 23).

SYNONYMY: No diagnostic information was provided by Strand (1907a) or Schenkel (1963) for any of the synonyms, and there appears to be none. Although males and females have not been collected together, they are associated here because both sexes seem closest to those of *G. hastata*. Males of the two species share a short, widened embolus, a small median apophysis, and a basally widened retrolateral tibial apophysis; females share an interiorly complex anterior epigynal region with triangular elevations.

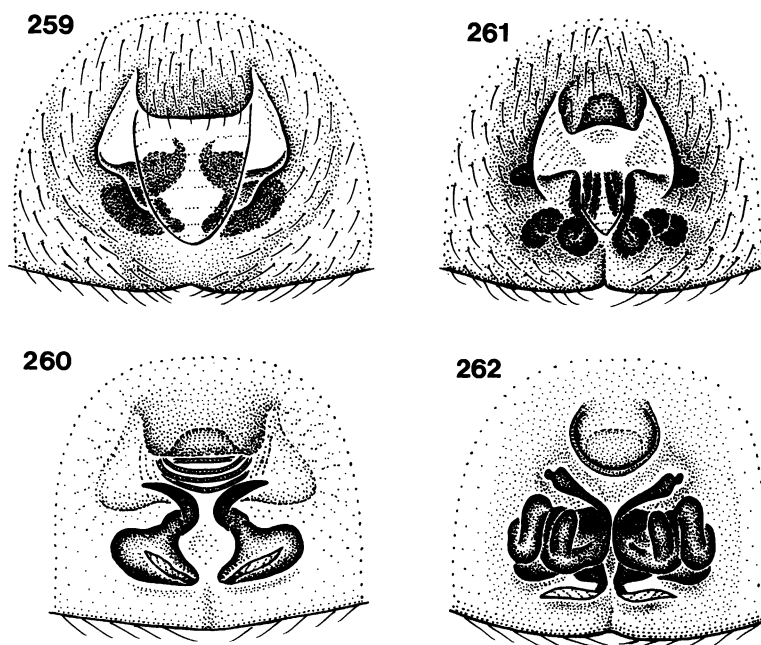
***Gnaphosa dege*, new species**

Figures 259, 260; Map 24

TYPE: Female holotype from Dege, Sichuan, China (July 10, 1983), deposited in IZB.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species seems closest to



Figs. 259–262. 259, 260. *Gnaphosa dege*, new species. 261, 262. *G. zonsteini*, new species. 259, 261. Epigynum, ventral view. 260, 262. Epigynum, dorsal view.

G. hastata but can be distinguished by the triangular epigynal midpiece and very narrow, curved median epigynal ducts of females (figs. 259, 260).

MALE: Unknown.

FEMALE: Total length 6.60. Carapace 3.10 long, 2.20 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.09, ALE 0.14, PME 0.10, PLE 0.10; AME-AME 0.12, AME-ALE 0.03, PME-PME 0.09, PME-PLE 0.20, ALE-PLE 0.22; MOQ length 0.37, front width 0.29, back width 0.32. Epigynal atrium triangular, with wide midpiece (fig. 259); spermathecae with very narrow, curved, widely separated median ducts (fig. 260). Leg spination: femur IV p0-0-0, r0-0-1; tibiae: I v0-0-0; III d0-0-0, p1-1-1, r0-1-1; IV d0-0-0, p1-1-1, r0-1-1; metatarsi: I v0-1-0; III p1-1-2, r1-1-2.

OTHER MATERIAL EXAMINED: USSR: **Kirghizia:** Sary-Dzhaz, Kentsu River, July 16, 1986 (S. V. Ovchinnikov, ZIP), 1♀. CHINA: **Sichuan:** Batang, Aug. 8, 1982 (IZB), 3♀; Dege, July 10, 1983 (IZB), 2♀.

DISTRIBUTION: Kirghizia in the USSR and Sichuan in China (map 24).

Gnaphosa hastata Fox
Figures 263–266; Map 24

Gnaphosa hastata Fox, 1937a: 247, fig. 1 (female holotype from Yunnan border, China, in USNM, examined).

Gnaphosa koreae: Paik, 1989: 9, figs. 30–41 (misidentification).

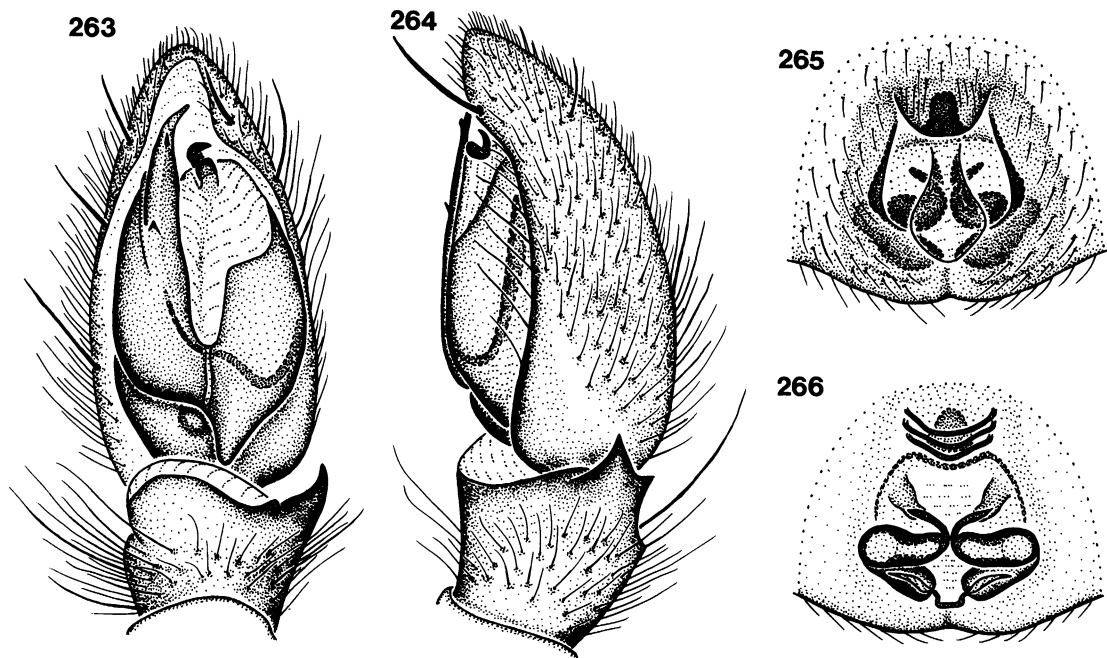
NOTE: This species was apparently listed twice by Roewer (1955), once under its correct name and once as *Gnaphosa hortula*, a name erroneously attributed to Fox (1937a).

DIAGNOSIS: Males can be recognized by the wide embolar base bearing small tubercles at its middle, the narrowed embolar apex, and the wide retrolateral tibial apophysis with two tips (figs. 263, 264), females by the oblong epigynal atrium, small epigynal midpiece, and narrow, approximate median epigynal ducts (figs. 265, 266).

MALE: Described by Fox (1937a).

FEMALE: Described by Paik (1989).

MATERIAL EXAMINED: CHINA: **Fujian:** Changchow (AMNH), 1♀. **Guangxi:** Longlin, Nov. 3, 1978 (IZB), 1♂. **Henan:** Xinxiang (B. Tsai, CTB), 1♂, 2♀. **Hubei:** Changyang, May 18, 1984 (IZB), 1♀. **Yunnan:** border, Oct. 1928



Figs. 263–266. *Gnaphosa hastata* Fox. 263. Left male palp, ventral view. 264. Same, retrolateral view. 265. Epigynum, ventral view. 266. Same, dorsal view.

(D. C. Graham, USNM), 1♀ (holotype). **Zhejiang:** Changxing, May 23, 1978 (IZB), 1♀. **KOREA:** Mt. Pargong-san, Page-sa, Apr. 15, 1978 (S. R. Sohn, CKYP), 1♂, 1♀.

DISTRIBUTION: Known only from central and southern China and Korea (map 24).

THE MONTANA GROUP

Males of this group typically have a basally twisted embolus and an elongated retrolateral tibial apophysis; females have a relatively wide, triangular epigynal midpiece and angular median epigynal ducts.

Gnaphosa montana (L. Koch)

Figures 243, 244, 267–270; Map 24

Pythonissa montana L. Koch, 1866: 18, fig. 11 (female holotype from “bayerischen Alpen,” depository unknown, not examined).

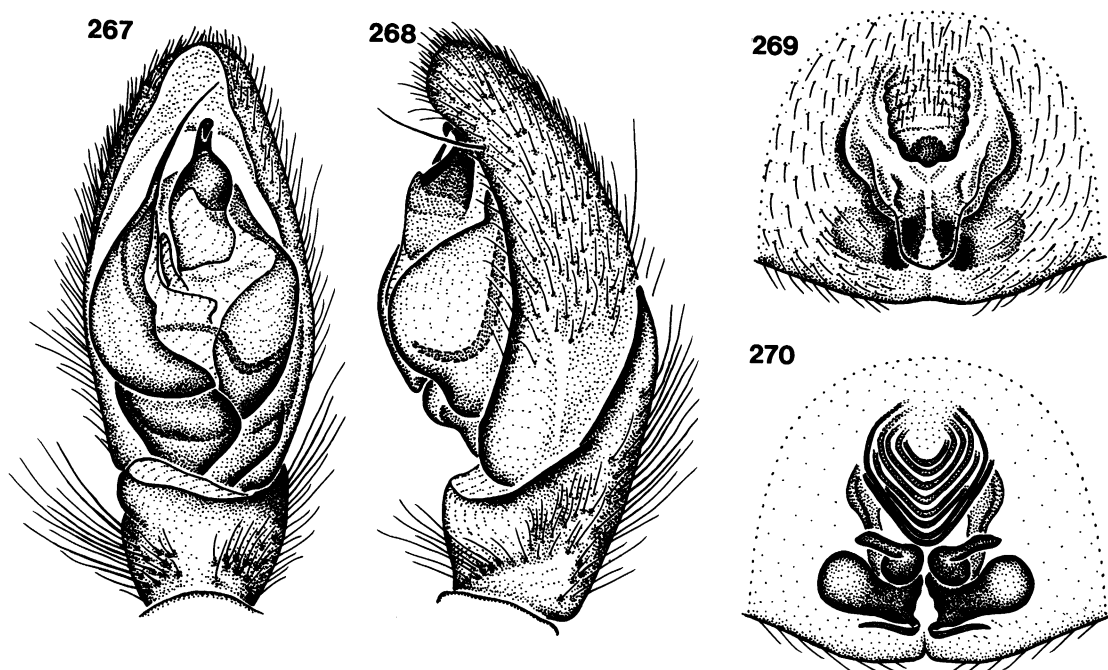
Gnaphosa montana: Thorell, 1871: 188. – Grimm, 1985: 73, figs. 48, 72–74. – Heimer and Nentwig, 1991: 422, figs. 1117.1–4.

DIAGNOSIS: Males can be recognized by the short embolus with an elevated plate at about half its length and the hooklike median apophysis (figs. 243, 267, 268), females by the extended epigynal atrium and the small, closely spaced median epigynal ducts (figs. 244, 269, 270).

MALE: Described by Grimm (1985).



Map 24. Distribution of *Gnaphosa dege* (●), *G. hastata* (■), and *G. montana* (▲).



Figs. 267–270. *Gnaphosa montana* (L. Koch). 267. Left male palp, ventral view. 268. Same, retrolateral view. 269. Epigynum, ventral view. 270. Same, dorsal view.

FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: USSR: **Russia:**

Bashkiriya: Bashkirskii Reservation, May–July 1976 (T. N. Grigoreva, ZIP), 2♀; Shulgan Tash Reservation, July 6, 1985 (A. Efimik, ZIP), 1♂, 3♀. *Irkutsk:* Angara River, 1867 (A. Czekanowski, ZIP), 1♀. *Kabardino-Balkariya:* Mt. Cheget, Baksanskoe Gorge, July 3, 1976, elev. 2000 m (V. I. Ovtsharenko, ZIP), 1♂. *Komi:* Kota, Letka, May–June 1976 (K. F. Sedykh, ZIP), 2♂, 2♀; Pechero-Ilychskii Reservation, July 5, 1975 (N. M. Pachorukov, ZIP), 1♀. *Leningrad:* Lodeinoe Pole, Nizhnesvirskii Reservation, June 17, 1987 (T. I. Oliger, ZIP), 1♀. *Mariiskaya:* Orshanka, July 19, 1962 (V. P. Tyschchenko, ZIP), 1♂. *Omsk:* nr. Omsk, June 7, 1930, under bark of pine (S. Lavrov, ZIP), 2♂, 3♀. *Ryazan:* Okskii Reservation, June 10, 1981, in house (K. Y. Eskov, ZIP), 1♀. *Samara:* Mt. Bashilova, Zhigulevskii Reservation, July 12, 1981 (V. I. Ovtsharenko), 2♀, Aug. 11, 1983 (Y. M. Krasnobaev, ZIP), 1♀. *White Sea:* Ryazhkov Island, Aug. 23, 1964 (Glaranskii, ZIP), 1♀.

DISTRIBUTION: Europe and steppe zone of Asia (map 24).

Gnaphosa moerens O. P.-Cambridge

Figures 271–274; Map 25

Gnaphosa moerens O. P.-Cambridge, 1885: 17, figs. 13a–f (male and female syntypes from four localities near Yarkand [= Soch'e], Xinjiang, China, in HDO, examined).

Pterotricha moerens: Roewer, 1955: 376.

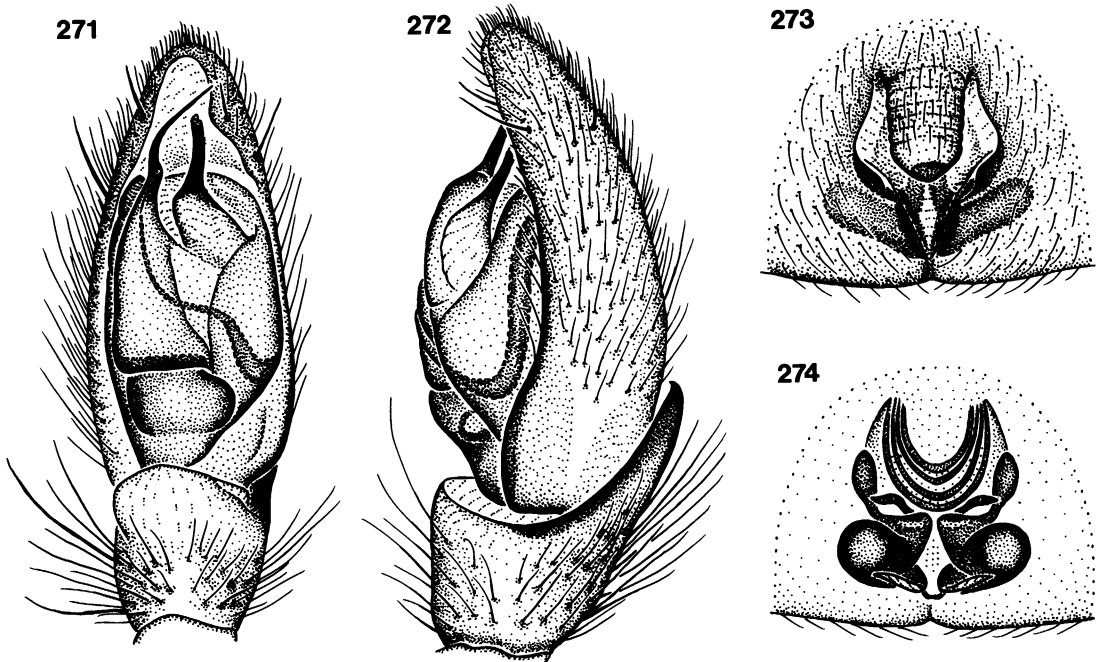
Gnaphosa maerens: Bonnet, 1957: 2015.

DIAGNOSIS: Males can be recognized by the short, narrow embolus bearing a wide tubercle basally (figs. 271, 272), females by the short, wide lateral margins of the epigynum and narrow median epigynal ducts (figs. 273, 274).

MALE: Described by O. P.-Cambridge (1885).

FEMALE: Described by O. P.-Cambridge (1885).

MATERIAL EXAMINED: CHINA: *Xinjiang:* Taxkorgan, July 7, 1975 (IZB), 1♀; Aug. 14, 1982, meadow (X. Z. Li, IZB), 1♀; presumed syntype series from “Hills between Sirikol and Aktalla, May 8th to 13th, 1874; between Yangihissar and Sirikol, March 1874; and from Yarkand to Bursi, May 28th to June



Figs. 271–274. *Gnaphosa moerens* O. P.-Cambridge. 271. Left male palp, ventral view. 272. Same, retrolateral view. 273. Epigynum, ventral view. 274. Same, dorsal view.

17th, 1874" (F. Stoliczka, HDO), 2♂, 5♀. NE-PAL: *Northern Dhaulagiri*: Dolpo, between Zö La and Büko La passes, June 19, 1973, elev. 4700–4850 m, open alpine steppe (J.

Martens, NMS), 1♀. *Western Dhaulagiri*: N Jungla Banjyang pass, June 1, 1973, elev. 3700–3800 m (J. Martens, NMS), 1♀.

DISTRIBUTION: Montane regions of central Asia (map 25).



Map 25. Distribution of *Gnaphosa moerens* (●) and *G. reikhardi* (■).

***Gnaphosa reikhardi*, new species**

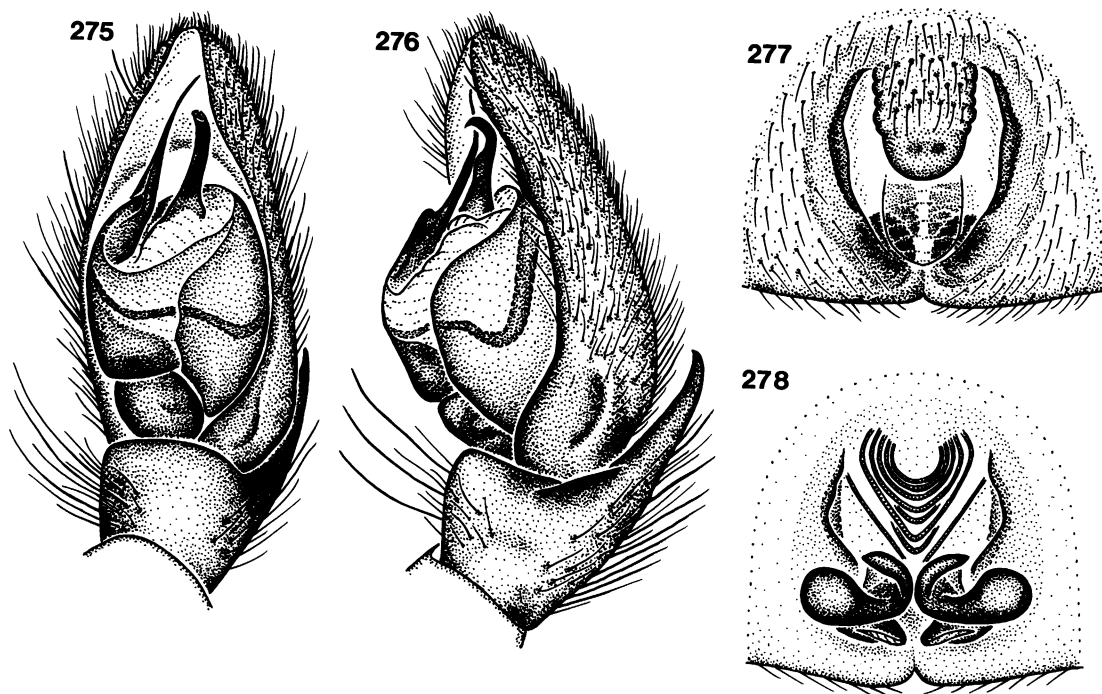
Figures 245, 275–278; Map 25

TYPE: Male holotype from Syugaty Mt., 157 km NE Alma-Ata, between Chilik and Kokpek, Chilik area, Alma-Ata, Kazakhstan, USSR (Apr. 12, 1990; A. A. Zyuzin, A. A. Fedorov, C. K. Tarabaev, ZIP), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of one of the collectors of this species.

DIAGNOSIS: This species seems close to *G. moerens* but can be distinguished by the wide embolus bearing a wide tubercle on its basal portion in males (figs. 245, 275, 276) and the long lateral epigynal margins and short, curved median epigynal ducts of females (figs. 277, 278). Males and females have not been collected together and may be mismatched.

MALE: Total length 8.70. Carapace 4.40



Figs. 275–278. *Gnaphosa reikhardi*, new species. 275. Left male palp, ventral view. 276. Same, retrolateral view. 277. Epigynum, ventral view. 278. Same, dorsal view.

long, 3.90 wide. Femur II 2.70 long. Eye sizes and interdistances: AME 0.10, ALE 0.19, PME 0.15, PLE 0.15; AME-AME 0.11, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.28, ALE-PLE 0.25; MOQ length 0.42, front width 0.30, back width 0.39. Palp with wide embolus bearing wide tubercle on basal portion, median apophysis long, narrow (figs. 245, 275); retrolateral tibial apophysis long, with curved tip (fig. 276). Leg spination: femora I, II p0-2-2; tibiae: I, II v0-0-1; IV p1-1-1; metatarsus III r1-1-2.

FEMALE: Total length 8.40. Carapace 3.20 long, 2.30 wide. Femur II 1.90 long. Eye sizes and interdistances: AME 0.11, ALE 0.17, PME 0.12, PLE 0.11; AME-AME 0.10, AME-ALE 0.02, PME-PME 0.04, PME-PLE 0.20, ALE-PLE 0.23; MOQ length 0.31, front width 0.32, back width 0.34. Epigynal atrium deep, with long lateral margins and small midpiece (fig. 277); spermathecae with short, curved, median epigynal ducts (fig. 278). Leg spination: femur IV p0-0-1, r0-0-1; tibiae: I v0-0-0; III p1-1-1, r0-1-1; IV d0-0-0, r1-0-1.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Alma-Ata:* Syugaty Mt., 157 km

NE Alma-Ata, between Chilik and Kokpek, Chilik area, Apr. 12, 1990 (A. A. Zyuzin, A. A. Fedorov, Ch. K. Tarabaev, ZIP), 3♂. **Kirghizia:** *Osh:* Ak-Terek, Fergana Mt. range, Oct. 7, 1979, elev. 750 m (S. L. Zonstein, ZIP), 1♀; Gulcha, June 22, 1928 (Reikhard, ZIP), 1♂. *Talas:* Shilbili gorge, Suusamyr-Too Mt. range, July 9, 1987 (S. V. Ovchinnikov, ZIP), 2♀.

DISTRIBUTION: Southeastern Kazakhstan and Kirghizia, USSR (map 25).

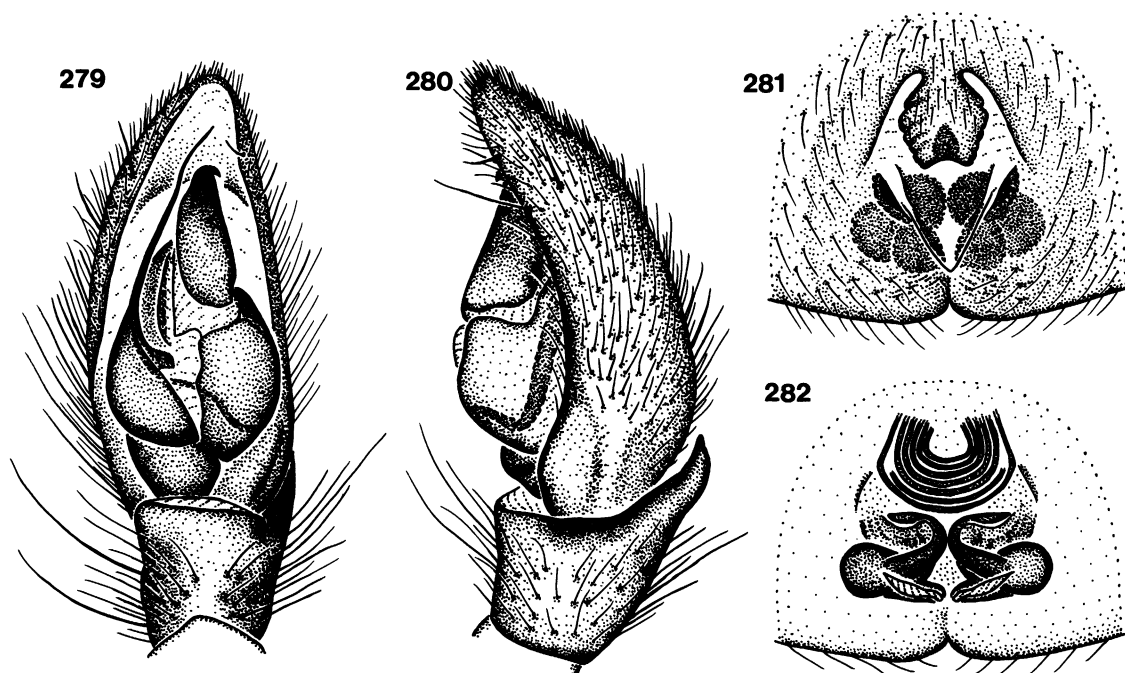
Gnaphosa zyuzini, new species

Figures 279–284; Map 26

TYPES: Male holotype and female allotype from 6 km SE Khantau, Khantau Mt., Dzhabul, Kazakhstan, USSR (June 9–11, 1990; A. A. Zyuzin, A. A. Fedorov), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of one of the collectors of the species.

DIAGNOSIS: This species can be recognized by the narrow embolus lacking a basal keel or tubercle in males (figs. 279, 283) and the



Figs. 279–282. *Gnaphosa zyuzini*, new species. 279. Left male palp, ventral view. 280. Same, retrolateral view. 281. Epigynum, ventral view. 282. Same, dorsal view.

short, posteriorly narrowed epigynal hood and short, narrow median epigynal ducts of females (figs. 281, 282, 284).

MALE: Total length 9.60. Carapace 4.10 long, 3.40 wide. Femur II 3.20 long. Eye sizes and interdistances: AME 0.15, ALE 0.18, PME 0.16, PLE 0.17; AME-AME 0.11, AME-ALE 0.04, PME-PME 0.08, PME-PLE 0.27, ALE-PLE 0.36; MOQ length 0.49, front width 0.38, back width 0.40. Palp with long, narrow embolus, without keel or tubercle, basal portion of median apophysis narrow (figs. 279, 283); retrolateral tibial apophysis extended, curved at tip (fig. 280). Leg spination: femur II p0-1-1; tibiae: I v1-1-2, II p0-0-1, v1-1-2; III r1-1-1; IV d0-0-0, p1-1-1; metatarsi: II v2-2-1; III v2-2-2.

FEMALE: Total length 11.60. Carapace 4.40 long, 3.20 wide. Femur II 2.60 long. Eye sizes and interdistances: AME 0.13, ALE 0.19, PME 0.13, PLE 0.17; AME-AME 0.17, AME-ALE 0.03, PME-PME 0.08, PME-PLE 0.29, ALE-PLE 0.38; MOQ length 0.47, front width 0.41, back width 0.43. Epigynal atrium shallow, with short epigynal hood (figs. 281, 284); spermathecae with short, narrow, strongly

curved median ducts (fig. 282). Leg spination: femur II p0-1-1; tibiae: I v0-0-1; II v0-1-1; IV d0-0-0; metatarsi: I, II v0-2-1; III v2-2-2.

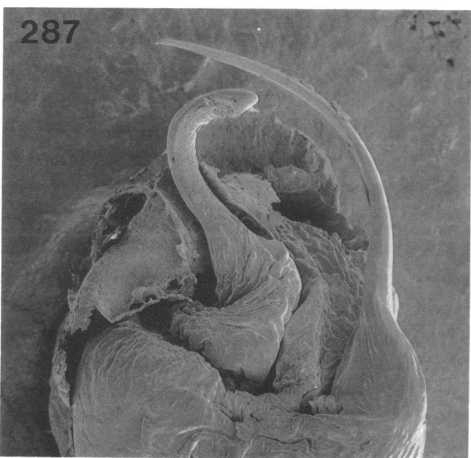
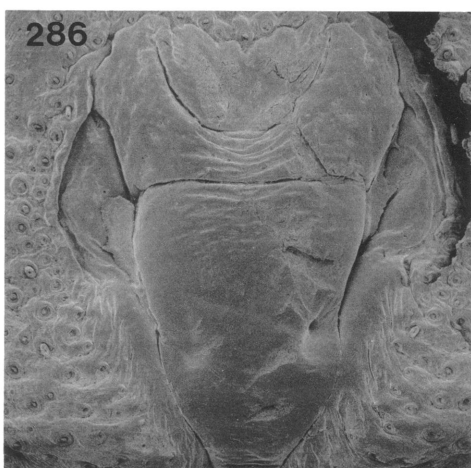
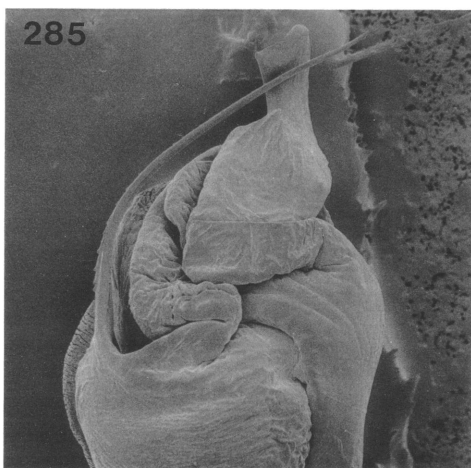
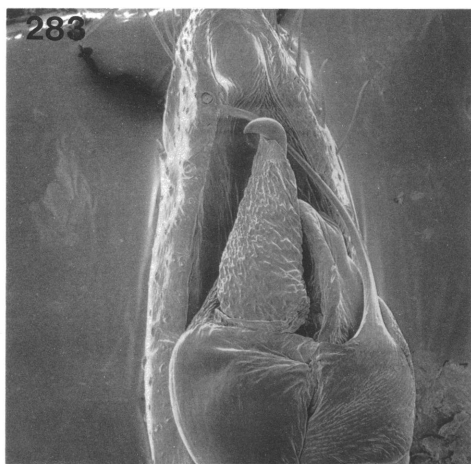
OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Dzhambul:* 21 km NW Akbakai, nr. Baikara Mt., Betpak-Dala desert, Moynkum area, June 7–8, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 1♂, 1♀; 15.7–18.4 km NW Kenen, Kindiktas Mt., Krasnogorka area, June 14–15, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 8♂, 2♀; Khantau Mt., June 8–9, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 5♀; 6 km SE Khantau, Khantau Mt., June 9–11, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 4♂, 1♀; 17 km E Khantau, nr. Sunkar Mt., June 12, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 1♂, 2♀; Kurdai Mt. pass, July 2, 1979 (S. L. Zonstein, ZIP), 1♀.

DISTRIBUTION: Dzhambul region in Kazakhstan, USSR (map 26).

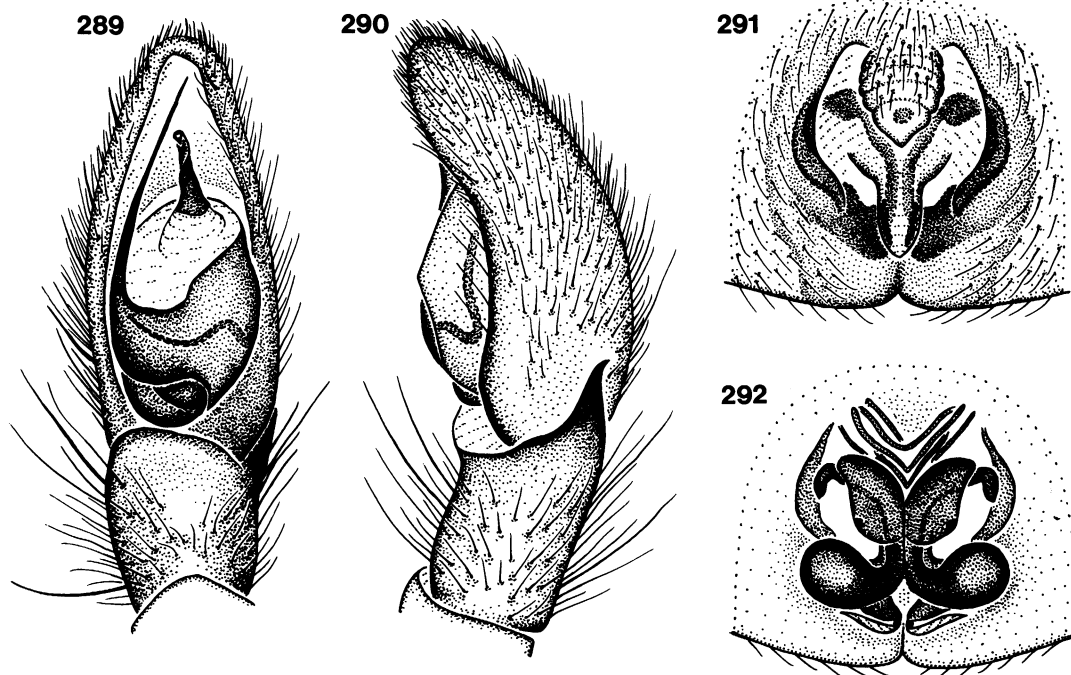
***Gnaphosa primorica*, new species**

Figures 289, 290; Map 26

TYPE: Male holotype from pitfall trap at Dmitrievka, Chernigovsk area, Primorskii,



Figs. 283–288. 283, 284. *Gnaphosa zyuzini*, new species. 285, 286. *G. nigerrima* L. Koch. 287, 288. *G. ilika*, new species. 283, 285, 287. Male palp, ventral view. 284, 286, 288. Epigynum, ventral view.



Figs. 289–292. 289, 290. *Gnaphosa primorica*, new species. 291, 292. *G. eskovi*, new species. 289. Left male palp, ventral view. 290. Same, retrolateral view. 291. Epigynum, ventral view. 292. Same, dorsal view.

Russia, USSR (July 2, 1989; A. A. Borok), deposited in ZIP.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Males resemble those of *G. zyuzini* (and *G. danieli*) in their relatively simple embolus, but can be distinguished by the longer embolus, which extends far beyond the tip of the median apophysis (figs. 289, 290).

MALE: Total length 5.20. Carapace 2.60 long, 1.85 wide. Femur II 1.60 long. Eye sizes and interdistances: AME 0.10, ALE 0.12, PME 0.10, PLE 0.10; AME-AME 0.10, AME-ALE 0.03, PME-PME 0.05, PME-PLE 0.13, ALE-PLE 0.17; MOQ length 0.34, front width 0.27, back width 0.31. Palp with narrow embolus (lacking tubercles on basal portion) and narrow median apophysis (fig. 289); retrolateral tibial apophysis triangular, curved at tip (fig. 290). Leg spination: patella III r0-0-0; tibiae: I v0-0-0; III p1-0-1, r0-1-1; IV d0-0-0, r1-0-1; metatarsi: I v0-1-0; II p0-1-1, v2-0-2, r0-1-2; IV p0-1-2.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality in the far eastern USSR (map 26).

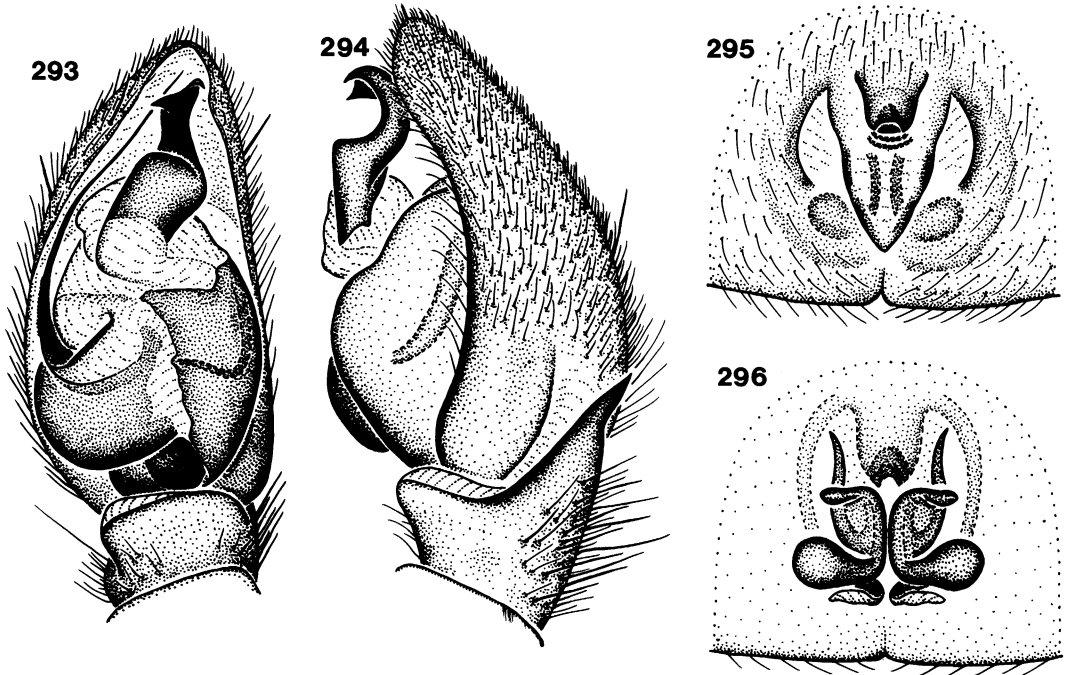
THE NIGERRIMA GROUP

Males of this group have an enlarged, folded median apophysis; females have distinctively enlarged median epigynal ducts. Three North American species (*G. parvula* Banks, *G. antipola* Chamberlin, and *G. snohomish* Platnick and Shadab) belong to this group, and (judging by their similarly serrated prolateral embolar margins) are probably closer relatives of *G. nigerrima* than are the other north Asian species.

Gnaphosa nigerrima L. Koch

Figures 285, 286, 293–296; Map 26

Gnaphosa nigerrima L. Koch, 1877: 185, fig. 11 (female holotype from Nürnberg, Germany, depository unknown, not examined). – Grimm, 1985: 77, figs. 50, 52, 53. – Ovtsharenko and Marusik, 1988: 207, figs. 12–14. – Heimer and Nentwig, 1991: 422, figs. 1120.1–4.



Figs. 293–296. *Gnaphosa nigerrima* L. Koch. 293. Left male palp, ventral view. 294. Same, retro-lateral view. 295. Epigynum, ventral view. 296. Same, dorsal view.

Gnaphosa nigra Kulczyński, 1926: 40, fig. 5 (female holotype from Klutschevskoje, Kamchatka, Russia, USSR, in PAN, examined). NEW SYNONYMY.

NOTE: See Grimm (1985) for European synonyms.

DIAGNOSIS: This distinctive species can easily be recognized by the serrated embolar base and curved, bifid median apophysis of males (figs. 285, 293, 294) and the reduced scape and wide, triangular epigynal midpiece filling the epigynal atrium (figs. 286, 295, 296) of females.

MALE: Described by Grimm (1985).

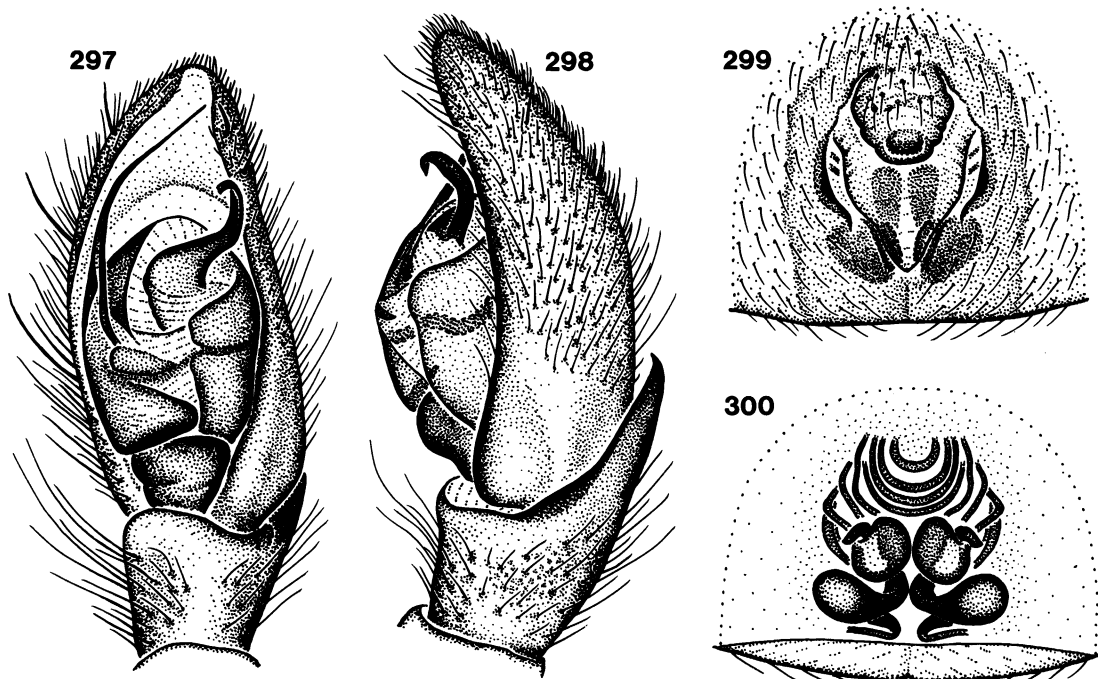
FEMALE: Described by Grimm (1985).

MATERIAL EXAMINED: USSR: **Russia:** *Chita:* Kalyarskii, June 29, 1976 (M. T. Shternbergs, ZIP), 1♂, 2♀. *Chukotka:* 60 km NE Markovo, Ubienka River, middle part of Anadyr River, May 30, 1985 (A. V. Kondratev, ZIP), 1♀. *Kamchatka:* Klutschevskoje, May 31, 1909 (PAN), 1♀ (holotype). *Krasnoyarsk:* Mirnoe, Enisei River, Aug. 29, 1979, swamp (K. Y. Eskov, ZIP), 2♀. *Magadan:* Aborigin research station, Kulu river, upper part of Kolima River, Cibit-Tyellach,

Tenkinsk area, 1979–1987 (S. P. Bushkalo, I. B. Grishkan, V. A. Tseitva, Y. M. Marusik, ZIP), over 60♂♀. *Tyumen:* mouth Tailova-Yakha River, Shchuchya River, S Yamal,



Map 26. Distribution of *Gnaphosa zyuzini* (●), *G. primorica* (■), and *G. nigerrima* (▲).



Figs. 297–300. *Gnaphosa ilika*, new species. 297. Left male palp, ventral view. 298. Same, retrolateral view. 299. Epigynum, ventral view. 300. Same, dorsal view.

June 25–July 13, 1979 (T. R. Andreeva, ZIP), 18♂, 4♀; nr. Shchuche, S Yamal, July 17–Aug. 10, 1980 (T. R. Andreeva, ZIP), 4♂.

DISTRIBUTION: Northern Palearctic (map 26).

SYNONYMY: Kulczyński (1926) provided no diagnostic information for *G. nigra*, and there appears to be none.

***Gnaphosa ilika*, new species**

Figures 287, 288, 297–300; Map 19

TYPES: Male holotype and female allotype from Bakanas, Alma-Ata, Kazakhstan, USSR (May 4, 1973; V. Fet), deposited in ZIP.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

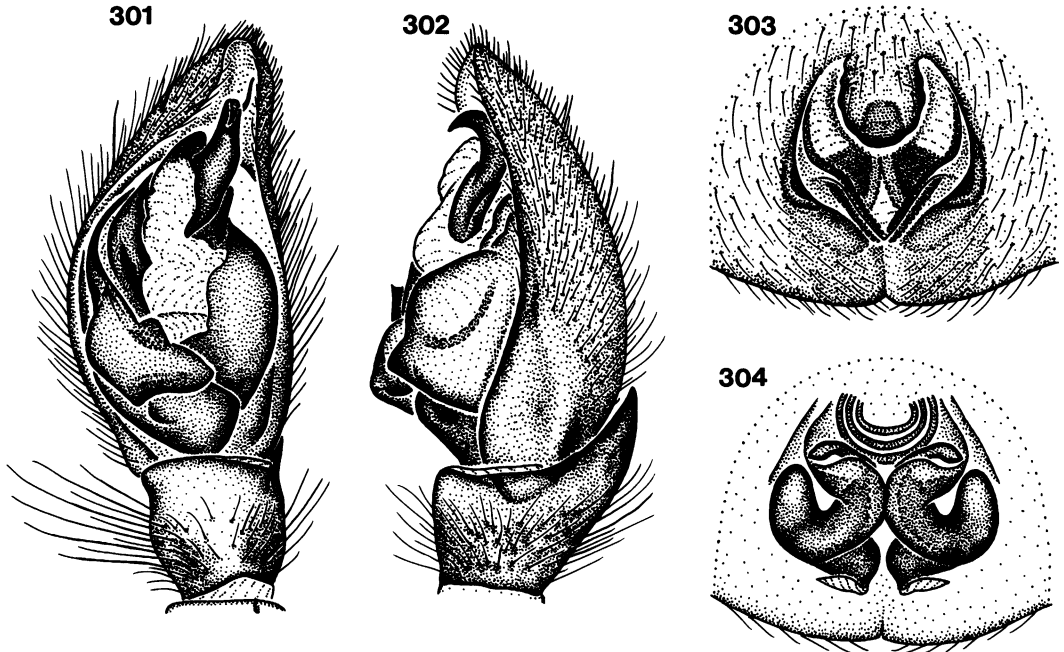
DIAGNOSIS: This species can be distinguished by the long, narrow, bent median apophysis of males (figs. 287, 297, 298) and the deep epigynal atrium, long epigynal hood, and wide median epigynal ducts of females (figs. 288, 299, 300).

MALE: Total length 8.30. Carapace 3.80 long, 2.80 wide. Femur II 2.60 long. Eye sizes and interdistances: AME 0.12, ALE 0.15,

PME 0.16, PLE 0.13; AME-AME 0.11, AME-ALE 0.04, PME-PME 0.04, PME-PLE 0.20, ALE-PLE 0.20; MOQ length 0.42, front width 0.34, back width 0.35. Palp with long embolus and narrow, long median apophysis (figs. 287, 297); retrolateral tibial apophysis long, narrowed at tip (fig. 298). Leg spination: tibiae: III p1-1-1, v2-2-2, r1-1-1; IV p1-0-1; metatarsi: III v2-2-2, r1-1-2; IV p0-2-2, r1-1-1.

FEMALE: Total length 8.20. Carapace 3.40 long, 2.60 wide. Femur II 2.10 long. Eye sizes and interdistances: AME 0.10, ALE 0.15, PME 0.15, PLE 0.14; AME-AME 0.10, AME-ALE 0.04, PME-PME 0.04, PME-PLE 0.18, ALE-PLE 0.20; MOQ length 0.41, front width 0.31, back width 0.36. Epigynal atrium deep, with wide midpiece and long anterior hood (figs. 288, 299); spermathecae with wide, closely spaced median ducts (fig. 300). Leg spination: femur IV p0-0-1, r0-0-1; tibiae: I v0-0-0; III p1-1-1, r1-1-1; IV p1-1-1.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Alma-Ata:* Bakanas, May 1–4, 1973 (V. Fet, ZIP), 2♂; Ili River, June 6, 1978, desert (Lukhtanov, ZIP), 1♀. *Dzhambul:* Ku-



Figs. 301–304. *Gnaphosa aborigena* Tyschchenko. 301. Left male palp, ventral view. 302. Same, retrolateral view. 303. Epigynum, ventral view. 304. Same, dorsal view.

muzek, Moiinkum area, July 15, 1989 (M. Batyrbaev, ZIP), 1♀; Sunkar Mt., 17 km E Khantau, Moiinkum area, July 12, 1990 (A. A. Zyuzin, A. A. Fedorov, ZIP), 2♀. *Vostochno-Kazakhstanskaya*: Dzheminei River, nr. Zaisan, June 2–4, 1990 (K. Y. Eskov, ZIP), 1♀; Karaungur River, nr. Kenderlyk River, Saur Mt. range, Zaisan area, June 18–22, 1990 (K. Y. Eskov, ZIP), 1♀. *Kirghizia*: *Frunze*: Malinovie gorge, 620 km S Frunze, Kirghiz Mt. range, June 22, 1984 (S. V. Ovchinnikov, ZIP), 3♀. *Talas*: Shilbili gorge, Suusamyr-Too Mt. range, July 9, 1987 (S. L. Zonstein, ZIP), 1♀.

DISTRIBUTION: Southeastern Kazakhstan and northern Kirghizia in the USSR (map 19).

***Gnaphosa eskovi*, new species**

Figures 291, 292; Map 16

TYPE: Female holotype from Akkolka River, nr. Kenderlyk River, Saur Mt. range, Zaisan area, Vostochno-Kazakhstanskaya, Kazakhstan, USSR (June 5–9, 1990; K. Y. Eskov), deposited in ZIP.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: This species seems close to *G. aborigena* but can be separated by the posteriorly narrow eppigynal midpiece and the long, narrow, closely spaced median epigynal ducts of females (figs. 291, 292).

MALE: Unknown.

FEMALE: Total length 8.60. Carapace 2.80 long, 2.20 wide. Femur II 1.60 long. Eye sizes and interdistances: AME 0.09, ALE 0.14, PME 0.12, PLE 0.11; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.17, ALE-PLE 0.17; MOQ length 0.32, front width 0.24, back width 0.28. Epigynal atrium with posteriorly narrow midpiece (fig. 291); spermathecae with long, narrow, closely spaced median ducts, lateral ducts without anterior extension (fig. 292). Leg spination: femur IV r0-0-1; tibiae: I v0-0-0; IV d0-0-0.

OTHER MATERIAL EXAMINED: USSR: **Kazakhstan:** *Vostochno-Kazakhstanskaya*: Saikan Mt. pass, Saur Mt. range, Zaisan area, June 27, 1990 (K. Y. Eskov, ZIP), 1♀.

DISTRIBUTION: Southeastern Kazakhstan, USSR (map 16).

Gnaphosa aborigena Tyschchenko

Figures 246, 301–304; Map 12

Gnaphosa aborigena Tyschchenko, 1965: 697, fig. 2 (female holotype from Kokshetau Mt., Kokchetav, Kazakhstan, USSR, in ZIP, examined).

NOTE: The male described as that of this species by Ponomarev (1981) is misidentified and belongs to *G. dolosa* Herman.

DIAGNOSIS: This species seems close to *G. eskovi* but can be recognized by the large tubercle on the basal portion of the embolus of males (figs. 301, 302) and the narrow epigynal hood and long, curved lateral epigynal ducts of females (figs. 246, 303, 304).

MALE: Total length 9.20. Carapace 4.60 long, 3.40 wide. Femur II 2.85 long. Eye sizes and interdistances: AME 0.13, ALE 0.15, PME 0.16, PLE 0.14; AME-AME 0.11, AME-

ALE 0.03, PME-PME 0.04, PME-PLE 0.30, ALE-PLE 0.30; MOQ length 0.43, front width 0.34, back width 0.41. Palp with large tubercle on basal portion of embolus, basal portion of median apophysis wide (fig. 301); retrolateral tibial apophysis long, narrowing toward tip (fig. 302). Leg spination: femur II p0-1-1; tibiae: III d0-0-0, r1-1-1; IV p1-1-1.

FEMALE: Described by Tyschchenko (1965).

MATERIAL EXAMINED: USSR: **Kazakhstan:** *Kokchetav*: Kokshetau Mt., July 26, 1957 (V. P. Tyschchenko, ZIP), 1♀ (holotype). *Vostochno-Kazakhstanskaya*: "Zaisanskii post," July 30, 1877 (G. N. Potanin, ZIP), 2♀; Akkolka River, nr. Kenderlyk River, Saur Mt. range, Zaisan area, June 10–28, 1990 (K. Y. Eskov, ZIP), 1♂, 1♀.

DISTRIBUTION: Known only from eastern Kazakhstan (map 12).

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